

many parts of England. In several lambs examined by Dr. Crisp millions of these entozoa and their ova were found in the bronchial tubes and in the intestinal canal, and he believed that many of the ova of these worms had been mistaken for *Cysticerci*; but the various stages of development could be readily traced under the microscope. Dr. Crisp had tried many experiments on the living worms as to the effect of poisons and other agents, and he believed that salt or sulphur given with the food, and the inhalation of sulphurous gas, under proper superintendence, would be the most likely means of destroying these parasites.

Dr. Crisp also placed on the table some parts of the anatomy of the Common Bittern (*Botaurus stellaris*), two of which birds (now comparatively rare) had recently been shot on the eastern coast of Suffolk. The bird from which the specimens were taken was a fine male, measuring from the tip of each wing 4 feet 1 inch, and from the point of the beak (when extended) to the lower part of the tarsus 3 feet. Among the peculiarities alluded to, was the smallness of the sternum, which measured only 3 inches longitudinally; the depth of keel only $\frac{3}{4}$ of an inch, and the lateral margins the same. The trachea measured twelve inches in length, and consisted of 198 imperfect rings; the bronchi of 20 semicircular elastic cartilages, readily approximated, and hence the production of the peculiar sound from which the bird takes its name. The stomach which was exhibited was large, and contained near its cardiac orifice a circle of gastric glands. A roach, weighing about four ounces, was digested at this part, but the tail, which was in the œsophagus, was intact. To show the voracity and capacity of swallow of this bird, Dr. Crisp said, that Sir W. Jardine and Mr. Yarrell had both taken a Water Rail from the stomach and œsophagus, and in Mr. Yarrell's specimen there were six small fish in addition. The pectinated claw was also exhibited, Dr. Crisp believing that it served for the purpose of cleaning the beak and mouth of the bird.

April 8, 1856.

Dr. Gray, F.R.S., in the Chair.

The following papers were read :—

1. ON DINORNIS (Part VII.): CONTAINING A DESCRIPTION OF THE BONES OF THE LEG AND FOOT OF THE DINORNIS ELEPHANTOPUS, Owen. BY PROF. OWEN, F.R.S., V.P.Z.S., &c.

Mr. Walter Mantell having, on his recent return from New Zealand, provisionally deposited his very extensive collection of remains of Dinornithic and other birds in the British Museum, I have gladly

acceded to the wishes of that successful and enterprising collector, and of my friend the able Keeper of the Mineralogical Department of the Museum, to devote the leisure at my command to the examination of this interesting and valuable collection.

I had advanced as far as the determination of the bones of the leg, and their classification according to their species, when the distinctive characters of one series of these bones irresistibly brought a conviction that they belonged to a species of *Dinornis* that had not previously come under my notice, and a species also which, for the massive strength of the limbs and the general proportions of breadth or bulk to height of body, must have been the most extraordinary of all the previously restored wingless birds of New Zealand, and unmatched, probably, by any known recent or extinct species of this class of birds.

I was so much struck by the form and proportions of the metatarsal bone described in the memoir read to the Zoological Society, June 23, 1846, and figured in pl. 48, figs. 4 and 5, vol. iii. of the 'Zoological Transactions,' that I alluded to it as "representing the pachydermal type and proportions in the feathered class*," and the bone unquestionably indicated at that period "the strongest and most robust of birds." By the side of the metatarsus of the species which I have now to describe, and for which I propose the name of *elephantopus*, that of the *Dinornis crassus*, however, shrinks to moderate, if not slender dimensions. But the peculiarities of the elephant-footed *Dinornis* stand out still more conspicuously when the bones of its lower limbs are contrasted with those of the *Dinornis giganteus*.

I propose, in the present memoir, to combine with the account of the leg- and foot-bones of the *Dinornis elephantopus*, that of the bones of the lower limb of the *Dinornis crassus*, which had not previously been described, and to bring out their characteristics by comparison with the bones of other species, especially those of the *Dinornis robustus*.

Commencing with the femur, I shall premise the following table of admeasurements of that bone in *Dinornis* :—

Dimensions of the femur in	<i>D. robustus.</i>		<i>D. elephantopus.</i>		<i>D. crassus.</i>	
	In.	Lines.	In.	Lines.	In.	Lines.
Length	14	2	13	0	11	10
Transverse breadth of proximal end	6	0	5	10	4	5
Fore-and-aft breadth of do.....	5	0	4	5	3	9
Transverse breadth of distal end ...	6	0	5	11	4	7
Fore-and-aft breadth of do.....	4	3	3	9	3	5
Circumference, least, of shaft	7	10	7	9	6	0

The above comparative dimensions bring out the characteristic proportions of the femur of the *Dinornis elephantopus*, as shown by its greater thickness and strength. As compared with the femur of the *Dinornis robustus*, this character is remarkably exemplified on a comparison of their articular extremities. Had these parts alone of the *Dinornis elephantopus* been preserved and submitted to me, I

* *Ib.* p. 325.

should have scarcely ventured upon a conclusion as to their specific distinction from the *Dinornis giganteus* or *Dinornis robustus*, the correspondence of configuration being so close, and the difference of size so slight.

The articular surface is continued from the head upon the upper part of the neck, expanding as it approaches the great trochanter, along the summit of which it is terminated by a ridge. In both species the surface for attachment of the ligamentum teres is formed, as it were, by a portion of the inner and back part of the hemisphere having been cut off obliquely with a slight excavation. The corresponding ligamentous surface in the head of the femur of the *Dinornis crassus* is relatively smaller, less depressed and less defined. The upper and fore part of the trochanter is less produced relatively to the breadth of the supra-trochanterian articular surface in the *Dinornis elephantopus*. In this species the sub-circular rough surface for the attachment of the *iliacus internus* muscle is relatively nearer to the head of the bone than in the *Dinornis robustus*; the rugged and thick fore part of the great trochanter descends lower upon the shaft; indeed, the shortness of the entire bone seems to depend chiefly on the shaft being relatively shorter in the *Dinornis elephantopus*. The intermuscular ridge continued from the trochanterian one seems to bifurcate sooner in the *Dinornis elephantopus*. The depression behind the trochanterian ridge is less deep in the *Dinornis elephantopus*. The oblique rotular channel is relatively as wide and deep as in the *Dinornis robustus*, but the inner boundary formed by the fore part of the inner condyle is shorter.

At the back part of the shaft the medullo-arterial foramen is relatively nearer the proximal end of the bone; the two tuberosities below this are closer together. The two sides of the fibular groove are at a more open angle, and the groove is less deep in the *Dinornis elephantopus*, the outer side being less produced.

The antero-posterior breadth of the outer and inner condyles is equal in the *Dinornis elephantopus* as in the *Dinornis robustus*; but in the *Dinornis crassus* that dimension of the outer condyle exceeds the same dimension in the inner one, and the fibular groove is more open or shallow than in the *Dinornis elephantopus*.

The generic modifications of the femur are, however, very closely preserved in each species, being strictly of the type ascribed to the genus *Dinornis* in my original memoir, Zool. Trans. vol. iii. p. 247.

Dimensions of the tibia in	<i>D. robustus.</i>			<i>D. elephantopus.</i>			<i>D. crassus.</i>		
	Ft.	In.	Lines.	Ft.	In.	Lines.	Ft.	In.	Lines.
Length	2	8	3	{ 2 0 0 }			1	7	6*
				{ 1 9 6* }			1	6	6
Transverse breadth of proximal end		7	6	{ 7 7 }		5*		6	2
Fore-and-aft breadth of do.....		4	9	{ 4 4 }		6*		3	6
				{ 4 4 }		3			
Least circumference of shaft.....		6	9			6		4	10
						5			
Transverse breadth of distal end...		4	4	{ 4 4 }		2*		3	3

* The extremes of size in a series of several bones are here given.

The characters of the upper end of the tibia of the *Dinornis elephantopus* closely accord with those of the *Dinornis robustus*, and the difference of size, as exemplified in the foregoing table, is so slight, that had this extremity only of the bone reached me, I should most probably have referred it to the *Dinornis robustus*. The almost flat articular surface for the inner condyle of the femur is somewhat less in its shorter diameter; the epinomial ridge is less extended transversely; the ectonemial ridge curves more strongly outwards; but there are individual varieties in all these characters in the tibiæ before me. All the tibiæ, however, differ in the earlier subsidence of the ridge continued downwards from the procnemial plate, which ridge is continued in *Dinornis robustus* uninterrupted by that above the inner division of the distal trochlea. The space between the ecto- and pro-cnemial plates in the *Dinornis crassus* is relatively greater than in either of the above larger species; the ridge continued from the procnemial plate is interrupted as in the *Dinornis elephantopus*. The fore part of the tibia internal to the procnemial ridge is impressed by irregular vascular grooves. The fibular ridge is interrupted by a smooth tract, in or near which is the orifice of the canal for the obliquely descending medullary artery in all the species of *Dinornis*. The upper division of the ridge is shorter in the *Dinornis elephantopus* than in the *Dinornis robustus*, and relatively shorter than in the *Dinornis crassus*. The surface between the fibular ridge and the inner border of the shaft at the back part is concave transversely in *Dinornis elephantopus*, not merely flat as in *Dinornis robustus* and *Dinornis crassus*, and, as it descends, it continues longer a flat surface before it changes gradually to a convex one. The oblong rough insertional surface above the inner condyle is relatively shorter and better defined in the *Dinornis elephantopus* than in the *Dinornis robustus*. On the characteristic fore part of the lower end of the tibia, that bone in the *Dinornis elephantopus* repeats all the modifications ascribed to the *Dinornis* in my memoir on the *Gastornis*, or large fossil bird from the Paris eocene*.

The tendinal canal inclines obliquely inwards parallel with the inner border of the expanding end, near which it is placed; the bony bridge spans across it from a flattened tubercle developed from the lower part of the outer pier. The outlet of the canal is as wide as in the *Dinornis robustus*; its aspect is obliquely forwards and downwards. External to the tubercle is an oblique rough depression, relatively narrower and better defined than in the *Dinornis robustus*. The inner condyle is relatively narrower and more produced forwards than in the *Dinornis robustus*, resembling more the proportions of that part in the *Dinornis crassus*. The general form and oblique direction of the wide distal trochlear articulation are closely repeated in all the species, the canal being rather more sharply defined behind in the *Dinornis elephantopus* than in the *Dinornis robustus*. The depression on the entocondyloid surface is less deep in the *Dinornis elephantopus* than in the *Dinornis robustus*.

The above-specified differences, as well as all that I have noticed in

* 'Proceedings of the Geological Society.'

the tibiæ of other species of *Dinornis*, are so inferior in degree to those which I have found in closely allied genera, and even in different species of the same genus, of other large land- and wading-birds, as *e. g.* in species of *Ciconia*, and in the existing Struthious genera, as to leave a strong impression on my mind of the generic affinity of the species which I have referred to *Dinornis* and *Palapteryx*, and which species have been divided, with a more liberal imposition of terms, by Dr. Reichenbach into the nominal genera *Anomalopteryx*, *Movia*, *Emeus*, *Syornis*, &c., no additional facts or characters being given by that nomenclator than are to be found in the pages or plates of my own memoirs.

The fibula of the *Dinornis elephantopus* remains, as in other *Dinornithes*, and as in the existing struthious genera, permanently distinct from the tibia; as a general rule in birds, it soon becomes ankylosed to that bone. In the species now defined it is a straight styliform bone, 14 inches 6 lines in length. The head is subcompressed and produced, as if slightly bent backwards; the upper articular surface is convex from before backwards, almost flat transversely. The head of the bone is flattened on the inner side, almost flat, but a little convex on the outer side. The fore-and-aft dimension is 2 inches 9 lines, the transverse diameter 1 inch 3 lines. Below the head the bone assumes a trihedral form, with the sides convex, gradually tapering, and blending into a shape elliptic in transverse section, and ending in a point about 9 inches above the ankle-joint. The outer surface of the shaft of the fibula is impressed by two oblong rough surfaces for the insertion of muscles, the upper one 2 inches 9 lines in length; the inner part, which is ridge-like, dividing the fore from the back surface of the bone, presents a rough surface with a median interruption, for the ligamentous attachment to the fibular ridge of the tibia.

Dimensions of the Metatars of.....	<i>D. gigan- teus.</i>	<i>D. robustus.</i>	<i>D. elephan- topus.</i>	<i>D. crassus.</i>
	In. Lines.	In. Lines.	In. Lines.	In. Lines.
Length	18 6	15 9	9 3	8 8
Transverse breadth of proximal end ...	4 3	4 6	4 5	3 3
Transverse breadth of distal end.....	5 4	5 3	5 4	3 9
Least breadth of shaft.....	2 3	2 0	2 5	1 9
Fore-and-aft breadth of proximal end...	3 2	3 2	2 10	2 5
Circumference of ditto.....	12 0	12 9	12 0	9 3
Least circumference of shaft	6 3	5 3	6 6	4 6
Breadth of middle trochlea.....	1 10	2 3	2 2	1 8
Length of do. following the curve	5 9	5 4	5 3	4 0

I had hitherto regarded the metatars of the *Dinornis crassus* (Zoological Transactions, vol. iii. pl. 48, figs. 4 and 5), as presenting the most extraordinary form and proportions of all the restored species of huge wingless birds of New Zealand; but it is strikingly surpassed in robustness and in great relative breadth and thickness by the same bone of the present species, which chiefly on that account I have proposed to name *elephantopus*. Only in the great Maccaws and Penguins do I know of a metatars with similar proportions to that of this most robust-legged of birds. But the Parrot

tribe present those peculiar modifications of the distal trochleæ, with the strong articulation for the back toe, which relate to the scan-sorial modifications of the bird's foot; and the Penguins associate with their broad and short metatars a characteristic retention of much of the primitive separation of the three constituent bones. In the *Dinornis elephantopus* these elements have become as completely coalesced as in any other species, and the general characters of both proximal and distal ends accord with those in previously described species. On a more special comparison of the metatars of the *Dinornis elephantopus* with that of its nearest congener, the *Dinornis crassus*, the following differences present themselves:—The entocondyloid depression is deeper, its fore-and-aft diameter is greater, and its transverse diameter less, than in the ectocondyloid one; but the breadth of the entocondyloid depression is relatively greater, and its depth somewhat less in the *Dinornis elephantopus* than in the *Dinornis crassus*. The transverse convexity dividing the two condyloid depressions is relatively broader in the *Dinornis elephantopus*; and the rough surface external to the anterior intercondyloid prominence is more strongly marked. The two calcaneal ridges present an equal prominence in *Dinornis elephantopus*; the ectocalcaneal one is the more prominent in *Dinornis crassus*. The anterior surface of the metatars differs chiefly in the proportions indicated in the table of admeasurements from that in the *Dinornis crassus*; like most of the metatarses of that species, one or more vascular foramina occur above the subcircular rough surface of insertion of the *flexor pedis*, which occupies the lower part of the shallow depression in the upper and fore part of the shaft. Along the lower half of the shaft, the median longitudinal, and progressively widening prominence, due to the middle of the coalesced metatarsal bones, is rather more marked than in *Dinornis crassus*. The inner side of the shaft is marked at its upper half by the oblique rough tract indicative of the insertion of the powerful aponeurosis of the gastrocnemii muscles. At the back surface the upper part of the middle metatarsal is relatively less prominent than in *Dinornis crassus*. The two vascular foramina occupy corresponding relative positions. All other notable differences are those of size and proportion.

From the metatars of the *Dinornis robustus* that of the *Dinornis elephantopus* differs most strikingly in its proportions of length to breadth, being little more than half the length, but of nearly equal breadth; the distant trochleæ, however, being relatively less expanded than in the *Dinornis robustus*.

The anterior vascular perforation is less than in the *Dinornis robustus*; the insertional roughness for the *tibialis anticus* below the foramen is of equal size. The upper half of the fore part of the metatars of the *Dinornis robustus* is longitudinally channeled in the *Dinornis robustus*, not in the *Dinornis elephantopus*. The corresponding part of the back part of the shaft is much more prominent in the *Dinornis robustus*. The characteristics of the metatars of the *Dinornis elephantopus* are more strongly manifested in the comparison with that of the *Dinornis giganteus*, of which bone

it has only half the length, other dimensions being equal or even greater.

Of the depression, which is very faint, in the *Dinornis robustus* for the ligamentous attachment of the rudimental back toe there is no trace in the metatars of the *D. elephantopus*.

The bones of the foot I shall compare with those of the *Dinornis robustus*,* to which they make the nearest approach in size. Equaling, or nearly equaling, the phalanges of that bird in breadth and thickness, they differ chiefly in shortness, but in a less degree than the metatarsi differ. These proportional characters of the species are best and easiest given in the plates. A few minor differences, however, may be noticed: the outer portion of the proximal end of the first phalanx of the inner toe is broader in proportion to its fore-and-aft diameter in *Dinornis elephantopus*. The inner portion of the proximal end of the first phalanx of the outer toe presents the like difference: the general form of that articular surface is less triangular and more oval in both the specified phalanges of the *Dinornis elephantopus*, one, the under side, being indented as usual in the proximal phalanges of the inner and outer toes.

The modifications in the other phalanges, besides those of size and proportion, are not greater or other than might be expected in different species of the same genus.

The first evidence of the *Dinornis crassus* reached me from a turban deposit at Waikawaite, in the Middle Island; it formed part of the collection there made by Mr. Earl. I have never received any evidence of the species from the North Island.

In like manner the bones of the much larger bird, which I have called *Dinornis robustus*, and which I was formerly inclined to regard as a variety of the *Dinornis giganteus*, appear to be peculiar to the Middle Island; or at least have not hitherto been found in any locality of the North Island.

The richer series of illustrations of both the *Dinornis robustus* and *Dinornis crassus* in the collection of Mr. Walter Mantell are from localities in the Middle Island; and the abundant illustrations of the *Dinornis elephantopus* are exclusively from one locality in that island; they were obtained at Ruamoā, three miles south of Oamaru Point, or that called the 'Vast Rocky Head' in the new Admiralty map. This fact might give rise to the idea that the original range or locality of the *Dinornis elephantopus* had been a restricted one, unless, at the period when the species flourished, the geographical extent of the Middle Island was widely different from what it now is. Yet Mr. W. Mantell has obtained strong, if not unequivocal evidence, that the *Dinornis elephantopus* and *Dinornis crassus* existed contemporaneously with Maori natives. The bones described in the foregoing pages are in a recent and most perfect condition. They retain the usual proportion of animal matter and have undergone no mineral change.

From the sum of our present information respecting the localities of the several species of *Dinornithidæ*, we may infer that most, if not all,

* See Trans. Zool. Soc. vol. iv. pl. 1.

the species of the North Island were distinct from those of the South Island. To birds that could neither fly nor swim—at least swim well,—the channel called Cook's Straits would prove an effectual bar to any migration from one island to another. With each successive addition of materials for a complete history of this most remarkable family of birds, I feel, however, chiefly impressed with the conviction of how little comparatively we still know respecting them, and how much more is likely, through the enlightened co-operation of active, resolute, and accomplished explorers, like Mr. Walter Mantell, to be, hereafter, contributed towards a perfect history of the New Zealand wingless birds.

Of the very remarkable species of *Dinornis* based upon the powerfully developed limbs, the bones of which are described in the foregoing pages, Mr. Mantell's collection includes right and left femora, right and left tibiæ, right and left fibulæ, right and left metatarsi, and a considerable collection of toe-bones, from which, probably, other entire feet might be reconstructed, in addition to the one of the left foot now submitted to the Society. There are also the two femora and the two metatarsi of an immature bird, apparently, by their proportions, from one individual, to which may also belong the proximal end of a tibia, wanting the articular epiphysis. The femora, as in the other birds, retain the two articular ends, which are simply rougher than in the adult, having been covered by a thicker cartilage, but are not developed upon distinct osseous pieces, as in land mammals. The proximal epiphysis is wanting in both the immature metatarsi, exhibiting the separate expanded ends of the three constituent bones terminating in the three prominent trochleæ below. The length of the femur of this young bird is 11 inches, that of the metatarsus $7\frac{1}{2}$ inches. They already present the characteristic robustness of the adult bird*.

2. ON A NEW TURKEY, MELEAGRIS MEXICANA.

By J. GOULD, Esq., F.R.S., &c.

In the lapse of time the origin of several of the animals which man has subjected to his dominion, and which are of the greatest service to his necessities or his pleasures, has become involved in obscurity. As instances in point we may cite among quadrupeds the Camel, the Horse, the Dog, &c., and among birds the various *Gallinacæ*, *Anatidæ* and *Columbidæ*, all of which were derived from Asia. The productions of the New World have not yielded such ready obedience to his sway, since no one of its quadrupeds has yet been domesticated, and only one of its birds—the Turkey; but a like fate, if I mistake not, has attended the origin of this solitary acquisition, which, although the bird has not been known to us more than 300 years, is equally wrapped in uncertainty.

* This paper will appear in the Transactions of the Society, illustrated with figures of the bones.

"So involved in obscurity," says Mr. Martin, "is the early history of the Turkey, and so ignorant do the writers of the sixteenth and seventeenth centuries appear to have been about it, that they have regarded it as a bird known to the ancients by the name of 'Meleagris,' namely, the Guinea-fowl or Pintado, a mistake which was not cleared up until the middle of the eighteenth century. The appellation of Turkey which the bird bears in our country, arose, according to Willoughby, from a supposition that it came originally from the country so called. Mexico was first discovered by Grijalva in 1518. Oviedo speaks of the Turkey as a kind of peacock abounding in New Spain, which had already, in 1526, been transported in a domestic state to the islands and the Spanish Main, where it was kept by the Christian colonists. It is reported to have been introduced into England in 1524, and is enumerated as among the dainties of the table in 1541. In 1573 it had become the customary Christmas fare of the farmer." Every author who has written on the subject since the days of Linnæus has considered it to be derived from the well-known wild Turkey of North America, but on account of the great differences which are met with among our domestic Turkeys, and the circumstance of the wild Turkeys recently imported from North America not readily associating or pairing with them, I have for some years past entertained a contrary opinion. This opinion may be met by some persons with the remark, that similar and even greater differences occur among our domestic poultry. True—but I believe that these differences are due to an admixture of two, three, or more species, and that in no case would the domestication of a single species produce characters so decided as those exhibited by the two birds now on the table.

In Canada and the United States the Turkey is partially migratory, visiting those countries during the summer, for the purpose of breeding, and although some writers state that it is a native of Mexico, I can hardly think it likely that it ranges very far south in the latter country, for, from the southern boundary of Canada to Mexico is nearly 2000 miles, and it is unlikely, I think, that a bird of the cold regions of Canada should also be indigenous to the hotter country of Mexico, whence, and not from North America, the Turkey was originally introduced into Europe by the Spaniards early in the sixteenth century.

Believing this bird to be distinct from the North American species, it becomes necessary that one of them should receive a new name, and a question then arises to which of the two should it be given. My opinion is, that it will be better to retain the term *Gallopavo* for the North American species, and to call the present one *Mexicana*, after the country of which it is a native. Linnæus' *Meleagris Gallopavo* is founded upon the *Gallopavo sylvestris* of Brisson's 'Ornithologie,' vol. i. p. 162, and upon Ray's New England Wild Turkey, both of which names appertain to the North American species; consequently the term *Mexicana* would be a fit appellation for the present bird. I may mention, that it is the only example of a Turkey I have ever seen from Mexico, and that it was brought to this country by the

late Mr. Floresi, a gentleman whose energy as a collector was only equalled by the honourable career of a moderately long life, during which he was connected with the Real del Monte Mines in Mexico. Mr. Floresi travelled himself, and kept collectors, who penetrated into the remotest parts of that country; and many were the fine species he by this means communicated to the world of science. I may mention the splendid *Picus imperialis*, *Calurus neoxenus*, and many Humming Birds, as some of the species which but for his researches would have been unknown to us.

In size this new Turkey exceeds that of the largest specimens of the North American species; but it has shorter legs, a considerably larger and more broadly expanded tail, conspicuously zoned with brown and black, and terminated with white; the tail coverts are very profusely developed, largely tipped with white, and bounded posteriorly with a narrow line of black, their basal portions being rich metallic bronze. The same arrangement of colouring also prevails on the feathers of the lower part of the flanks; and on the under tail coverts, where it is particularly fine; the centre of the back is black, with green, purplish and red reflexions; the back of the neck, upper part of the back, and shoulders, are in some lights bronzy, in others the colour of fire; the greater wing coverts are uniform bronzy brown, forming a conspicuous band across the wing; all the primaries are crossed by mottled bars of blackish brown and white, freckled with brown; all the under surface is fiery copper, intensely brilliant in certain lights, and becoming darker towards the flanks.

Total length 4 feet 4 inches; bill $2\frac{1}{2}$ inches, wing $21\frac{3}{4}$ inches, tail 16 inches, and when spread about 24 inches across; tarsi $6\frac{3}{8}$.

In the Report of an expedition down the Zuni and Colorado Rivers by Captain L. Sitgreaves, lately published in America, the following passage occurs at p. 94, in reference to Wild Turkeys:—

“They are also found in New Mexico, in the neighbourhood of the copper-mines. I am told by our officers that those found there are of enormous size. Mr. Leroux, our guide, informed me that the Turkeys of the Gila River were different from those found east of the Río Grande, and that they have much white about them.”

These are doubtless identical with the bird under consideration.

Since the above remarks were in type, I have been informed by J. H. Gurney, Esq., M.P., that he some years since received the skin of a Wild Turkey from the neighbourhood of the Real de Monte mines in Mexico, which he considers to be the same as the bird above described; this specimen is now in the Museum at Norwich.

3. SYNOPSIS AVIUM TANAGRINARUM. — A DESCRIPTIVE CATALOGUE OF THE KNOWN SPECIES OF TANAGERS.
BY PHILIP LUTLEY SCLATER, M.A. F.Z.S., &c.

Part I. containing the genera *Pitylus*, *Orchesticus*, *Diucopsis*, *Salinator*, *Psittospiza*, *Lamprospiza*, *Cissopsis*, *Oreothraupis*, *Arremon*, *Phenicophilus*, *Buarremon* and *Chlorospingus*.

Genus I. PITYLUS.

Pitylus, Cuv. Regn. An. 1829, ii. p. 413.

Cissurus, Reich. Av. Syst. Nat. pl. 77.

Periporphyrus, Reich. l. c.

Caryothraustes, Reich. l. c.

Rostrum maximum, breve, altum, latum, quasi coccothraustinum; mandibulæ superioris marginibus fortiter sinuatis et mandibulam inferiorem tegentibus; culmine multum incurvo: alæ modicæ, remigibus tertia, quarta et quinta longissimis: cauda plus minusve elongata, plerumque rotundata: tarsi robusti.

The birds of this genus are the most finch-like of the Tanagers, and I have some doubts whether they are not as closely allied to *Guiraca*, *Hedymeles*, and other *Coccothraustine* forms, as to the present group. We want more information as to their habits and internal structure before this point can be satisfactorily settled.

a. *Pitylus*.

1. PITYLUS GROSSUS.

Coccothraustes americana cærulea, Briss. Orn. vi. App. p. 89.

Grosbec bleu d'Amérique, Buff. Pl. Enl. 154.

Loxia grossa, Linn. S. N. i. p. 307.

Pitylus grossus, Gray, Gen. p. 362; Schomb. Guian. iii. 677; Bp. Consp. p. 503; Cab. M. H. p. 143.

White-throated Grosbeak, Lath. G. H. v. 268.

Cano-cærulescenti-schistaceus; facie, gutturi lateribus et cervice antica nigris; gula media alba. ♀ minus cærulescens et nigro colore carens.

Long. tota 7·2, alæ 3·7, caudæ 3·3.

Hab. Cayenne; British Guiana (*Schomb.*); Bogota; Pebas, Upper Amazon (*Castelnau et Deville*).

Mus. Brit., Paris., Derbiano, &c.

2. PITYLUS FULIGINOSUS.

Loxia fuliginosa, Daud. Orn. ii. 372 (1801).

Coccothraustes cærulescens, Vieill. Nov. Dict. xiii. 546 (1817), et Enc. Meth. 1016.

Fringilla gnatho, Licht. Verz. d. Doubl. p. 22; Max. Beit. iii. 552.

Pitylus atrochalybeus, Jard. et Selb. Ill. Orn. i. pl. 3.

Tanagra psittacina, Spix, Av. Bras. ii. p. 44, pl. 57, fig. 2.

Pitylus erythrorhynchus, Sw. Class. ii. p. 282.

Pitylus gnatho, Gray's Gen. ii. p. 362; Bp. Consp. p. 503.

Saltator psittacinus, Bp. Consp. p. 490; Gray's Gen. ii. p. 363.

Pitylus cærulescens, Cab. M. H. p. 143.

Sooty Grosbeak, Lath. G. H. v. p. 269.

Cærulescenti-niger, gutture et pectore antico intensioribus, nigris :
rostro rubro. ♀ unicolor, magis fusca, neque cærulescens.

Long. tota 9·0, alæ 4·1, caudæ 4·3.

Hab. South-east Brazil, Rio di Janeiro (*Spix*); Bahia (*Max.*).

Mus. Brit., Paris., Derbiano.

b. *Periporphyrus*.

3. PITYLUS ERYTHROMELAS.

Loxia erythromelas, Gm. S. N. ii. 859.

Coccothraustes erythromelas, Vieill. N. D. d'H. N. xiii. 547; Enc.
Meth. 1017; Gal. des Ois. i. p. 70, pl. 59.

Pitylus erythromelas, Gray, Gen. p. 362.

Periporphyrus erythromelas, Bp. Consp. p. 503.

Black-headed Grosbeak, Lath. G. H. v. 237, pl. 88.

Ruber, capite toto cum gutture nigris : rostro plumbeo. ♀ brunneo-
flava capite (sicut maris) nigro.

Long. tota 7·6, alæ 4·0, caudæ 3·8.

Hab. Cayenne; Para (*Wallace*).

Mus. Brit., Paris., &c.

4. PITYLUS CELÆNO.

Fringilla celæno, Licht. Preis-Verz. d. S. u. V. no. 72 (1831).

Pitylus atro-purpuratus, Lafr. R. Z. 1838, p. 224 (♂); Gray's
Gen. p. 362.

Pitylus atro-olivaceus, Lafr. R. Z. 1838, p. 224 (♀); Gray's
Gen. p. 362.

Pyranga mexicana, Less. R. Z. 1839, p. 41; Gray's Gen. p. 364;
Bp. Consp. p. 241.

Caryothraustes atro-olivaceus, Bp. Consp. p. 503.

Periporphyrus atro-purpuratus, Bp. Consp. p. 503.

Niger : torque cervicali postica cum lateribus pectoris et ventre
rubris : tectricibus subalaribus roseis : rostro plumbeo. ♀ olivacea,
subtus flavescens; pileo toto et gutture nigris.

Long. tota 8·4, alæ 4·0, caudæ 3·5.

Hab. South Mexico, Papantla (*Deppe*).

Mus. Paris., Lugdunensi, Berolin.

c. *Caryothraustes*.

5. PITYLUS VIRIDIS.

Coccothraustes canadensis, Briss. Orn. iii. 229.

Grosbec de Cayenne, Buff. Pl. Enl. 152, fig. 2 (fig. pess.).

Loxia canadensis, Linn. S. N. i. 304; Gm. i. 856; Lath. Ind.
Orn. i. 379; Daud. ii. 373; Shaw's Zool. ix. 269.

Pitylus canadensis, Gray, Gen. p. 362; Schomb. iii. 667.

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Coccothraustes viridis, Vieill. Enc. Meth. p. 1017.

Caryothraustes viridis, Cab. Mus. Hein. p. 144; Sclater, Tan. Cat. Sp. p. 3.

Caryothraustes cayanensis, Bp. Consp. p. 514 (*partim*).

Pitylus personatus, Less. Rev. Zool. 1839, p. 42; Descr. d. Mamm. et Ois. p. 344.

Canada Grosbeak, Lath. G. H. v. p. 382.

Supra flavo-olivaceus, pileo flavescentiore; subtus flavus: loris et gula tota nigris.

Long. tota 5·9, alæ 3·5, cauda 2·5.

Hab. Cayenne (*Buff.*); British Guiana (*Schomb.*).

Mus. Brit., Paris., &c.

6. PITYLUS BRASILIENSIS.

Fringilla viridis, Max. Beit. iii. 555.

Fringilla cayanensis, Licht. Verz. p. 22 (excl. Syn.).

Caryothraustes brasiliensis, Cab. Mus. Hein. p. 144.

Similis Pitylo viridi, sed major, rostro fortiore et nigredine gulari magis extensa.

Long. tota 6·8, alæ 3·7, caudæ 3·0.

Hab. South Brazil, prov. Bahia (*P. Max.*).

Mus. Berolin., &c.

7. PITYLUS POLIOGASTER.

Pitylus polioaster, Dubus, Bull. Ac. Brux. xiv. pt. ii. p. 105 (1847); Rev. Zool. 1848, p. 245; Gray's Gen. App. p. 16.

Pitylus flavocinereus, Cassin, Pr. Ac. Phil. iv. p. 47 (1848).

Fringilla episcopus, Licht. in Mus. Berol.

Caryothraustes episcopus, Bp. Consp. p. 504.

Canada Grosbeak, var. A. Lath. G. H. v. p. 282?

Olivacescenti-flavus: tectricibus alarum dorso proximis, dorso postico et abdomine cinereis: loris et gula nigris.

Long. tota 7·0, alæ 3·7, caudæ 3·0.

Hab. Mexico, Cosamaluapan (*Deppe*); vic. of Cordova (*Sallé*); Guatimala (*Dubus*).

Mus. Berolin., Lugdunens., Philadelph. Academ. et Bruxell.

Genus II. ORCHESTICUS.

Orchesticus, Cab. Mus. Hein. p. 143 (1851).

Rostrum modicum, breve, altum, latum, tumidum; mandibulæ superioris marginibus non sinuatis, culmine incurvo; alæ modicæ, remigibus secunda, tertia, quarta et quinta longissimis: cauda subrotundata.

1. ORCHESTICUS ABEILLII.

Pyrhula abeillei, Less. Rev. Zool. 1839, p. 40.

Tanagra occipitalis, Natt. in Mus. Berol.

Orchesticus occipitalis, Cab. Mus. Hein. p. 143.

Diucopsis leucophæa, Bp. Consp. p. 491 (excl. syn.).

Schistochlamys abeillei, Sclater, Tan. Cat. Sp. p. 4.

Tangara roux, Less. Tr. d'Orn. p. 464.

*Olivascenti-cinereus, pileo plumbescente, fronte, alis caudaque rufis :
subtus dilutior, ochraceo-rufus ; lateribus obscurioribus :
rostro plumbeo.*

Long. tota 7·4, alæ 3·4, caudæ 3·5.

Hab. South Brazil, Bahia (*J. Verreaux*).

Mus. Paris., Brit., Berol., &c.

This curious bird has long been common in European collections, being often transmitted from Bahia. From its appearance one would suppose it to be a female, but M. Jules Verreaux (who has himself shot it in the island of Itaparica) informs me that the natives consider it a distinct species.

Lesson's description of his *Pyrrhula abeillei* "*corpore isabellino : occipite, dorso et cauda supra brunneo-isabellinis : infra fronte et collo latè isabellinis : alarum pennis nigris extus rufis,*" is, I think, sufficiently accurate to warrant us using his specific name for this bird.

2. ORCHESTICUS CAPISTRATUS.

Saltator ruficapillus, Vieill. Nouv. Dict. xiv. 108 ; Enc. Méth. p. 793 ; Puch. Arch. Mus. Paris. vii. 355 ?

Tanagra capistrata, P. Max. Reise n. Bras. ii. 500 (1821), et Beitr. iii. 500 ; Spix, Av. Bras. ii. p. 41, pl. 54, fig. 1.

Pitylus capistratus, Sw. Class ii. p. 282.

Tachyphonus ? capistratus, Gray's Gen. p. 365.

Diucopsis capistrata, Bp. Consp. p. 491.

Schistochlamys capistrata, Sclater, Tan. Cat. Sp. p. 4.

Tanagra leucophæa, Licht. Verz. d. Doubl. p. 32, 1823.

Schistochlamys leucophæa, Cab. Mus. Hein. p. 141.

"*Tanagra conspicillata*, Mus. Paris." Bp. Consp. p. 491.

*Schistaceus, pileo brunnescentiore : rostri cærulescentis ambitu nigro :
subtus pallide ochraceo-rufus, ventre medio albescente, lateribus
schistaceis.*

Long. tota 6·7, alæ 3·3, caudæ 3·0.

Hab. South-east Brazil, prov. Bahia, et Minas Geraes (*P. Max.*) ; Rio (*Spix*).

Mus. Brit., Paris., &c.

3. ORCHESTICUS ATER.

Tangara à cravatte noire de Cayenne, Buff. Pl. Enl. 714, fig. 2.

Tanagra atra, Gm. S. N. 898.

Saltator ater, Lafr. et d'Orb. Syn. Av. in Mag. de Zool. 1837, p. 36 ; Cab. in Schomb. Reis. iii. 677.

Nemosia atra, Bp. Consp. p. 236.

Diucopsis atra, Bp. Consp. p. 492.

Schistochlamys atra, Cab. Mus. Hein. p. 141 ; Sclater, Tan. Cat. Sp. p. 4, et P. Z. S. 1855, p. 154.

Tanagra melanopsis, Lath. Ind. Orn. i. p. 422 ; Max. Beitr. iii. 504.

Saltator melanopis, Vieill. Nouv. Dict. xiv. p. 103, et Enc. Méth. p. 790; d'Orb. Voy. p. 291; Tsch. F. P. p. 210.

Le Camail, Desm. Tan. pl. 42.

Black-faced Tanager, Lath. G. H. vi. p. 12.

Cinereo-griseus, subtus dilutior: pileo antico et capitis lateribus cum gutture toto juguloque nigris. Junior ex cinereo olivascens unicolor, nigredine vix perspicua.

Long. tota 6·2, alæ 3·3, caudæ 2·9.

Hab. British Guiana (*Schomb.*); Cayenne; Trinidad; New Grenada, Bogota; North-east Peru, wood-region (*Tsch.*); Bolivia, Moxos and Chiquitos (*d'Orb.*); Goyaz and Albuquerque, Rio Paraguay (*Cast. et Dev.*); South Brazil, prov. Rio and Espiritu S. (*P. Max.*).

Mus. Brit., Paris., &c.

Genus III. DIUCOPIS.

Diucopis, Bp. Consp. p. 491 (1850).

Schistochlamys, Reich. Av. Syst. Nat. pl. 77 (1850).

Rostrum subexiguum, rectum, conicum; alæ brevissimæ, remige prima secundam subaquante, hac cum tertia, quarta et quinta æqualibus et longissimis: cauda modica, subquadrata.

1. DIUCOPIS FASCIATA.

Tanagra fasciata, Licht. Verz. d. Doubl. p. 32; Max. Beit. iii. 493; Bp. Consp. p. 238.

Tanagra axillaris, Spix, Av. Bras. ii. 41, pl. 54, fig. 2.

Tachyphonus axillaris, Gray, Gen. p. 365.

Diucopis fasciata, Bp. Consp. p. 491.

Schistochlamys fasciata, Selater, Tan. Cat. Sp. p. 3.

Schistacea, subtus albescentior: loris, regione oculari et tectricibus alarum nigris: gutture et ventre toto cum fascia alari albis.

Long. tota 6·9, alæ 2·9, caudæ 2·6.

Hab. South-east Brazil, prov. San Paolo (*Licht.*); Minas and Bahia (*P. Max.*).

Mus. Brit., Paris., Derbiano.

This bird differs from the members of the genus *Orchesticus*, with which it has been lately associated, in the smaller straighter bill, very short wings, and more squared tail.

2. DIUCOPIS SPECULIGERA.

Schistochlamys speculigera, Gould, P. Z. S. 1855, p. 68, et Ann. N. H. xv. p. 345.

Nigra: speculo alarum, tectricibus subalaribus et macula sub nuchæ penni oblecta cum corpore subtus albis: lateribus et dorso postico schistaceis.

Long. tota 6·7, alæ 3·1, caudæ 2·8.

Hab. East Peru, river Ucayali (*Hawxwell*).

Mus. Brit.

Mr. Gould's types are the only specimens I have seen of this peculiar bird. They were collected by Mr. Hawxwell in August 1852 upon the Ucayali, and are marked "*Irides red.*" I rather doubt this being the true place of this species, but at present I am unable to indicate a better one.

Genus IV. SALTATOR.

Saltator, Vieillot, Analyse, p. 32 (1816).

Rostrum forte, elongatum, incurvum, vix sinuatum sed apice dentata: alæ rotundatæ, remigibus tertia, quarta et quinta fere æqualibus et longissimis: cauda admodum longa et plerumque rotundata: ptilosis olivacea, schistacea, fulva, brunnea: sexus similes.

1. SALTATOR ATRICEPS.

Saltator atriceps, Less. Cent. Zool. pl. 69; Gray, Gen. p. 363; Bp. Consp. p. 489; Cab. M. H. p. 142.

Arremon giganteus, Bp. P. L. Z. 1837, p. 117; Gray, Gen. p. 361. *Pyrrhula raptor*, Cabot, Boston Journ. v. p. 90.

Saltator raptor, Gray's Gen. App. p. 16; Bp. Notes s. l. coll. Delattre, p. 23.

Flavo-olivaceus: capite toto cum mento et vitta cervicem anticam cingente nigris: superciliis a fronte curtis et plaga gulari media albis: abdomine cinereo, crisso ochraceo-ruf.

Long. tota 9·5, alæ 4·7, caudæ 4·7.

Hab. South Mexico, Papantla (*Deppe*); vic. of Cordova (*Sallé*); Guatimala (*Bp.*); Escuintla (*Mus. Brit.*); Yucatan (*Cabot*).

Mus. Brit., Parisiensi, &c.

This is the largest and finest species of the genus. Prince Bonaparte (Notes Orn. s. l. coll. Delattre, p. 23) seems to consider Dr. Cabot's *Pyrrhula raptor* distinct, but Mr. Cassin, in his communication on Dr. Cabot's birds given in 'Jardine's Contributions,' 1852, p. 96, states it to be identical with the present bird, and the description given by Prince Bonaparte is applicable in every respect to this species.

2. SALTATOR MAGNOIDES.

Saltator magnoides, Lafr. R. Z. 1844, p. 41; Gray, Gen. App. p. 10; Bp. Consp. p. 489.

Saltator gigantodes, Cab. M. H. p. 143.

Supra olivaceus; capite cinereo, pileo viridi mixto: subtus schistaceus, mento albo, gutture et crisso ferrugineis: vitta lata gutturem undique cingente nigra.

Long. tota 7·5, alæ 4·0, caudæ 3·6.

Hab. Mexico (*Lafr.*); vic. of Cordova (*Sallé*); Coban (*Mus. Brit.*); Chiriqui (*Bridges*).

Mus. Brit. et Heineano.

The *S. magnoides* is very like the preceding species but much smaller in size, and with but slight supercilia. Besides, the chin is

white and the throat brown like the *crissum*. I have seen the type of *S. gigantodes* in Herr Heine's museum, and consider it the same as *magnoides*.

3. *SALTATOR MAGNUS*.

Tangara des grands bois de Cayenne, Buff. Pl. Enl. 205 (fig. pess.).
Tanagra magna, Gm. S. N. p. 890; Lath. Ind. Orn. i. p. 422;
 Max. Beitr. iii. 525.

Le griverd de Cayenne, Buffl. Pl. Enl. 616 (fig. pess.)?

Coracias cayana, Bodd. Table d. Pl. Enl.

Coracias cayennensis, Gm. S. N. p. 381.

Saltator virescens, Vieill. Nouv. Dict. xiv. 104, et Enc. Méth. p. 790?

Saltator olivascens, Vieill. Nouv. Dict. xiv. 108; Enc. Méth. p. 794, et Gal. des Ois. p. 103, pl. 77; Tsch. F. P. p. 209.

Saltator cayennensis, d'Orb. Voy. p. 290.

Saltator magnus, Gray's Gen. p. 363; Bp. Consp. p. 489; Cab. Mus. Hein. p. 142.

Supra flavescenti-olivaceo-viridis, capitis lateribus cinereis, superciliis ante oculos curtis albis: subtus fulvescenti-cinereus: gula media alba, utrinque nigro-marginata, cervice antica crissoque pallide rufis: rostro nigro.

Long. tota 8·0, alæ 4·0, caudæ 3·7.

Hab. Cayenne (*Poiteau* in Mus. Paris.); British Guiana (*Schomb.*); Bogota (*Mus. Brit.*); East Pern, wood-region (*Tsch.*); Pintobamba (*Cast. et Dev.*); Bolivia, Yuracares (*d'Orb.*); Brazil, Rio (*P. Max.*).
Mus. Brit., Paris., &c.

This *Saltator* seems very widely distributed over the South American continent, and is in that respect different from the rest of its congeners. It may be at once distinguished by its uniform bright olive-green upper plumage (not of so yellowish a tint as in *Saltator atriceps*), and the brownish blotch on the foreneck: from *S. magnoides* it differs in the want of the black throat-band.

The Brazilian skins are of rather larger dimensions than the Cayenne birds, but do not otherwise differ.

4. *SALTATOR ICTEROPYGIUS*.

Saltator icteropyga, Dubus, Esq. Orn. pl. 13; Gray, Gen. App. p. 16.

Supra saturate cinerascanti-fuscus: superciliis, mento et gutture albis: pectore et epigastrio fulvescenti-cinereis: ventre dilute fulvo: hypochondriis cinereo-fulvis: crisso citrino: remigibus fuscis, extus cinereo limbatis: rectricibus supra nigris viridi-aneis submicantibus cinereoque extus limbatis: lateralibus quatuor utrinque macula magna alba in medio pogonii interni notatis: rostro corneo: pedibus fuscescentibus.

Hab. Mexico.

The Vicomte Dubus has given the above description of this curious *Saltator*, of which there is a specimen in his collection. Prince

Bonaparte, in his 'Conspectus,' states, on the authority of Baron de Lafresnaye, that it is merely the common *S. magnus* supplied with the tail of a *Ptilogonys*. But Dr. Hartlaub, who has lately inspected the bird, is quite convinced of its being a good and distinct species. (See Journ. f. Orn. 1854, p. 255.)

5. *SALTATOR SIMILIS*.

Tanagra superciliaris, Max. Beitr. iii. 518?

Saltator similis, Lafr. et d'Orb. Syn. Av. i. p. 36; d'Orb. Voy. p. 290, pl. 28, fig. 2; Gray, Gen. p. 363; Tsch. F. P. p. 209?; Bp. Consp. p. 489; Cab. Mus. Hein. p. 143.

Saltator gutturalis, Licht. in Mus. Berol.

Supra cinereus; interscapulio et alarum marginibus olivaceo-viridibus: superciliis longis albis: subtus albedo-cinereus, medialiter fulvo tinctus: gutture toto pure albo, utrinque nigro marginato: crisso rufescente: rostri inferioris basi alba.

Long. tota 9·0, alæ 4·0, caudæ 4·0.

Hab. South Brazil, Corrientes (*d'Orb.*); Peru, wood-region and coast (*Tsch.*).

Mus. Paris., Brit.

This bird is common among the collections of Brazilian skins so frequently imported of late years. Comparing it with *S. magnus*, we find the olive colour, which there pervades the entire upper surface, confined in the present species to the middle of the back and edgings of the wings, the rest of the upper plumage being cinereous. The throat too is pure white, and wants the rufous blotch on the fore-neck.

6. *SALTATOR OLIVASCENS*.

Saltator olivascens, Cab. in Schomb. Reise, iii. 676; Bp. Consp. p. 490; Cab. Mus. Hein. p. 142.

Saltator plumbeus, Bp. Notes Orn. p. 23.

Fusco-cinereus unicolor; superciliis ante oculos curtis et gutture albis, hoc utrinque nigro marginato: subtus albo-cinereus, pectore cinerascens; ventre medio albescentiore, inferiore cum crisso pallide rufescenti-ochraceis: rostro nigro.

Long. tota 8·0, alæ 3·75, caudæ 3·3.

Hab. British Guiana (*Schomb.*); Cayenne (*Mus. Paris.*); Venezuela, Cumana (*Mus. Eytoni*); S. Martha (*Bp.*); Trinidad (*Lord Harris*).

Mus. Bremensi; Eytoni; Berolin.; Heineano.

There is no trace of green colour on the plumage of this *Saltator*, the upper surface being uniform blackish-cinereous, as in *Saltator grandis*, to which it is very closely allied. But the latter bird may be distinguished by the blacker sides of the head and ear-coverts, and the greater breadth of the stripes on each side of the throat, which leave only a narrow longitudinal white band in the middle of it. And in the Central American bird the ochraceous colour of the crissum extends all over the abdomen more or less, while in the present species the middle of the belly is nearly white.

I have Prince Bonaparte's type of *S. plumbeus* in my possession, and consider it clearly the same as Dr. Cabanis' species.

7. *SALTATOR GRANDIS*.

Tanagra grandis, Licht. Preis-Verz. no. 67 (1831).

Saltator rufiventris, Vig. Beechey's Voy. Pac. p. 19?

Saltator vigorsi, Gray, Gen. p. 363?; Bp. Consp. p. 489; Cab. Mus. Hein. p. 143; Bp. Notes Orn. p. 23.

Saltator icterophrys, Lafr. Rev. Zool. 1844, p. 40; Gray's Gen. App. p. 16; Bp. Consp. p. 490 (juv.?)??

Saltator grandis, Licht. in Mus. Berol.

Saltator nigrigenis, Selater, MS.

Supra nigrescenti-cinereus, lateribus capitis nigris: superciliis albis: gutturis stria mediali alba, utrinque late nigro marginata: abdomine cinereo fulvo tincto: ventre imo et crisso rufescentibus. Junior (S. ICTEROPHRYS, Lafr.?). Supra olivaceo indutus, superciliis et camptorio flavidis: ventre rufescentiore.

Long. tota 7·75, alæ 4·0, caudæ 4·0.

Hab. South Mexico, Jalapa (Mus. Berol.); Orizaba (Boterî); vic. of Cordova (Sallé); Guatemala (Constancia).

I have already stated the characters which distinguish this species from the preceding, which is its representative in the more northern portions of the South American continent, while *S. azaræ* seems to take its place in Bolivia.

I am glad to be able to adopt Lichtenstein's name for the present bird, because I can only very doubtfully refer the other synonyms to this species, and in this state of uncertainty have occasionally applied to it the MS. name *nigrigenis*. But since I have seen the types of *S. grandis* at Berlin, and have ascertained that they are really the same as my *nigrigenis*, I have adopted Lichtenstein's name, which was published, although with rather insufficient specific characters, in 1831.

8. *SALTATOR MUTUS*.

Tanagra superciliaris, Spix, Av. Bras. ii. 44, pl. 57?

Saltator superciliaris, Cab. Mus. Hein. p. 142, certe.

Saltator cærulescens, Tsch. F. P. p. 209? (teste Cab.).

Tanagra muta, Licht. in Mus. Berol.

Supra nigricanti-cinereus unicolor; subtus albescenti-cinereus: superciliis ante oculos curtis et gutture medio albis, hoc nigro marginato: ventre medio albescentiore, crisso pallide rufescente: rostro nigro.

Long. tota 8·5, alæ 4·3, caudæ 4·0.

Hab. North Brazil, Lower Amazon, island of Mexiana (Wallace). Mus. Berol.

The description and figure given by Spix of his *S. superciliaris* are as applicable to this species as any other; but without examining the type (which I vainly sought for the last time I was at Munich), it is impossible to be sure of being right in using his name for the present

bird, and I have therefore adopted for it Lichtenstein's term *mutus*, by which it is known in the Berlin museum. In fact, the names *superciliaris* and *cærulescens* have been applied to so many of this group of species, and the original descriptions upon which these terms rest are so indefinite, that it only produces further confusion to continue to employ them.

The *Saltator mutus* is rare in collections. Besides the example at Berlin I have only seen the specimens collected by Mr. Wallace in the neighbourhood of Para, from one of which my characters are taken. It is distinguished from all its allies by the uniform blackish-gray colouring of the plumage, the same below as above, only much lighter and more white, without any tinge of green, brown or rufous, except on the crissum. The supercilia only extend to the top of the eye. The bill is deep black and more elongated than in its congeners.

9. SALTATOR AZARÆ.

Saltator azaræ, d'Orb. Voy. p. 287: Bp. Consp. p. 490.

Supra nigricanti-cinereus, dorso virescente tincto: alis nigricantibus cinereo limbatis: superciliis curtis et gutture medio albis, hoc anguste nigro marginato: abdomine summo albescente, cinereo et ochraceo tincto, imo autem cinnamomescenti-ochraceo.

Long. tota 9·0, alæ 4·3, caudæ 4·3.

Hab. Bolivia, prov. Moxos and S. Cruz de la Sierra (d'Orb.).

Mus. Brit., Paris.

The closest allies of this bird are certainly *S. grandis* and *olivascens*, particularly the latter; but it is larger than either of them. From *S. olivascens* it may be also known by its cinereous back, having rather a greenish than a brownish tinge, and a deeper cinnamomeous colouring extending from the vent up to the middle of the belly, which in the *S. olivascens* is nearly white. From *S. grandis* it differs in its shorter bill and narrow throat-stripes, besides its superior size.

10. SALTATOR CÆRULESCENS.

Habia ceja blanca, Azara, Pax. i. p. 344.

Saltator cærulescens, Vieill. Nouv. Dict. xiv. 105, et Enc. Méth. p. 791; Hartl. Ind. Az. p. 6; d'Orb. Voy. p. 287.

"*Fusco-brunneus, virescente paululum tinctus, alis extus olivaceo marginatis: subtus cinerascenti-albus: gutture medio albo, utrinque nigro marginato: ventre et crisso rufescente indutis, crisso saturatiore: superciliis a fronte ad nucham albis.*

Hab. Paraguay (Azara); Corrientes in rep. Arg. (d'Orb.).

Mus. Parisiensis.

I have only seen one specimen of this species, which is in the Paris Museum, and was brought by d'Orbigny from Corrientes. It is certainly very closely allied to the Bolivian '*azaræ*.' But the bill is shorter and thicker, and there is a greenish colouring on the back

and wings, of which there are no traces in the other bird, though I have some doubt whether this may not be due to the individual not being fully adult.

11. *SALTATOR GULARIS.*

Loxia gularis, Less. Tr. d'Orn. i. p. 448.

"*Saltator cærulescens*, Vieill.," Cab. Mus. Hein. p. 142.

Saltator superciliaris, Licht. in Mus. Berol.

Saltator gularis, Lafr. in Mus. suo.

Supra nigrescenti-plumbeus, superciliis longis a fronte ad imam cervicem albis: subtus fulvescens, gutture utrinque nigro marginato; pectore et cervicis lateribus cinerascens: ventre medio albescentiore: rostro brevissimo, crassissimo, nigro, apice uncinata: mandibula superiore juxta nares aurantia.

Long. tota 8·5, alæ 4·0, caudæ 4·0.

Hab. Monte Video (Cab.).

12. *SALTATOR MAXILLOSUS.*

Saltator maxillosus, Cab. Mus. Hein. p. 142 (note).

Similis S. gulari, sed rostro adhuc majore, subtus minus ferrugineus, et alis olivaceo perfusus: a S. muto autem gula non alba sed sordide flavescens-grisea et crisso clarius ferrugineo, necnon rostro forti dignoscendus. (Cab. l. c.)

Hab. Monte Video (Cab.).

Mus. Berol.

I examined the type of this species when at Berlin, and was rather doubtful about its real distinctness from the preceding. I possess a specimen very much resembling it, as far as I can recollect and can gather from Cabanis' description. The bill of this example is not thicker than in one specimen of *S. gularis*, but is uniform black, and the back and wings are olive-green as in that in the Berlin Museum. But I think it is probable that this may be an immature stage of *S. gularis*.

13. *SALTATOR RUFIVENTRIS.*

Saltator rufiventris, Lafr. et d'Orb. Syn. Av. in Mag. de Zool. 1837, p. 35; d'Orb. Voy. p. 289, pl. 28, fig. 1; Gray's Gen. p. 363; Bp. Consp. p. 489.

Saturate plumbeus: superciliis clongatis albis: abdomine castaneo.

Long. tota 9·0, alæ 4·4, caudæ 4·0.

Hab. Bolivia (d'Orb. et Bridges).

Mus. Brit. et Paris.

M. d'Orbigny found this species very common in the environs of Enquisivi, in the province of Sicasica, and near Palca, in the province of Ayupaya in Bolivia. Mr. Bridges' specimens in the British Museum are also from Bolivia. It is a well-marked bird, and not likely to be confounded with any of its congeners.

14. *SALTATOR AURANTIROSTRIS.*

Habia pico naranjado, Azara, Pax. i. p. 349.

Saltator aurantiorostris, Vieill. N. D. d'H. N. xiv. p. 103, et Enc. Méth. p. 789; d'Orb. et Lafr. Syn. Av. in Mag. de Zool. 1837, p. 35; d'Orb. Voy. p. 288; Gray, Gen. p. 363; Bp. Consp. p. 490.

Supra cinereus, pileo obscuriore: capitis lateribus, vitta subgutturali conjunctis, nigris: superciliis postice dilatatis et gutture albis: abdomine ochraceo-albido: cauda nigra, rectricibus lateralibus albo terminatis: rostro aurantio.

Long. tota 8·5, alæ 4·0, caudæ 3·75.

Hab. Paraguay (*Azara*); Corrientes, La Plata (*d'Orb.*); Bolivia, Sicasica, Mizque, Valle-grande, Ayupaya, Cochabamba and La Paz (*d'Orb.*); Peru, Echarate (*Cast. et Dev.*).

Mus. Brit., Paris. &c.

This species, which may be always recognized by its bright orange bill, seems rather variable in some respects. There is a fine series of specimens of it in the Paris Museum, collected by d'Orbigny and Castelnau and Deville. In what seem to be the fully adults, the front sides of the head, throat and breast, are all deep black, a post-superciliary stripe and middle of the throat only being white. Others, which I suppose are immature, have the white space on the throat much larger, the black guttural band being confined to a mere ring, which in some specimens is hardly apparent.

15. *SALTATOR ALBICOLLIS*.

Saltator albicollis, Vieill. N. D. d'H. N. xiv. 107, et Enc. Méth. p. 793; Gray, Gen. p. 363; Bp. Consp. p. 489.

Fusco-olivaceus; subtus albo-subvirescens fusco maculatus: superciliis gulaque albidis. (Bp.)

I have examined the type-specimen at Paris upon which Vieillot founded this species, and from which Prince Bonaparte took the short characters above given. It seems to be an immature bird, and I think the locality, *Cayenne*, is most likely wrong. I suspect it was probably from Trinidad, in which island there is a *Saltator* belonging to this section with the flammulated under-plumage. Of this I possess an example which may be described as follows:—

“Above greenish-olive; head darker, uropygium more cinereous; small yellowish supercilia before the eye; wings bordered with bright olive-green; tail brown like the wing-feathers inside, rectrices edged basally with cinereous; under-surface white, regularly flammulated with olive-green, middle of the throat and belly nearly all white, just the shafts of the feathers only being olive; under wing-coverts white; bill black, with the apex yellow. Whole length 7·5; wing 3·5, tail 3·3.”

There is a peculiar twist in the commissure in this bird which seems to agree with what Vieillot says of his *S. albicollis*; and I think it very probable that it is this Trinidad species that ought to bear that name.

But until an accurate comparison can be made between a series of individuals of each of the five members of this section of the genus, I think it almost hopeless to determine the species satisfactorily.

16. *SALTATOR STRIATIPECTUS*.

Saltator striatipectus, Lafr. R. Z. 1847, p. 73; Gray, Gen. App. p. 16; Bp. Consp. p. 489.

Supra olivaceus; uropygio caudaque cinereis: linea a naribus ad oculos, palpebrisque pallide sulphureis: subtus albus, pectore parum ochraceo tincto et striis fusco-olivaceis flammulato: gula, ventre et ano albis: gutturis albedine lateraliter vitta fusca marginata: rostro nigro-corneo, apice pallescente.

Long. tota 7.4.

Hab. Caly in New Grenada (Lafr.).

Mus. Lafresnayano.

17. *SALTATOR MACULIPECTUS*.

Saltator maculipectus, Lafr. R. Z. 1847, p. 73; Gray, Gen. App. p. 16; Bp. Consp. p. 489.

Supra fusco-griseus, dorso supremo parum olivaceo tincto: remigibus fuscis olivaceo marginatis: macula ante oculos, palpebrisque vix conspicue albescentibus: subtus albus; collo antico pectoreque maculis sordide griseis, quæ supra ventrem et hypochondria in strias angustas mutantur, variegatis.

Long. tota 6.8.

Hab. New Grenada (Lafr.).

Mus. Lafresnayano.

M. de Lafresnaye says of this species, that it differs from the preceding by its smaller size, grey and not olive tinge on the head and neck, belly white and not washed with olive, and beak shorter and yellow at the point.

18. *SALTATOR GUADALUPENSIS*.

Saltator guadalupensis, Lafr. R. Z. 1844, p. 167; Gray, Gen. App. p. 16; Bp. Consp. p. 489.

Supra olivaceus; uropygio caudaque sordide griseis; vitta superciliari angusta a naribus ad occiput ducta albido-virescente: subtus griseo-rufescens; hypochondriis griseo-obscurioribus; ano pallide rufescente; pectore et ventre flammulis obscurioribus parum conspicuis variegatis: gutture colloque antico albis, utrinque vitta nigra marginatis: rostro basali et medio brunneo-nigris, apicali albido-flavo.

Long. tota 7.9.

Hab. Island of Guadeloupe (Ricord).

Mus. Parisiensi.

19. *SALTATOR MARTINICENSIS*.

Saltator martinicensis, Bp. Consp. p. 489.

Similis S. guadalupensi, sed rostro minus robusto (!). (Bp.)

Hab. Island of Martinique.

Mus. Parisiensi.

There are six specimens of this *Saltator* from the island of Mar-

tinique in the museum of the Jardin des Plantes, presented by M. Alexander Rousseau in April 1842. I cannot see any specific difference between them and the Guadalupe bird.

20. SALTATOR ORENOCENSIS.

Saltator orenocensis, Lafr. R. Z. 1846, p. 275; Gray, Gen. App. p. 16; Bp. Consp. p. 490; Cab. M. H. p. 143.

Saltator genalis, Licht. in Mus. Berol.

Supra griseo-plumbeus; alis caudaque nigris, remigibus primariis strictissime secundariis et tertiariis late cinereo terminatis: rectricibus omnibus ejusdem coloris: rectricibus supra basi et extus griseo quasi vittatis, infra grisescentibus: vitta lata superciliari, gutture, collo antico, maculaque parva ad mandibulæ basin niveis: genis cum capitis, colli et pectoris lateribus atris: subtus pallide ochraceus, hypochondriis et subcaudalibus ferrugineis: rostro nigro aut nigro-plumbeo: pedibus fuscis.

Long. tota 6·8.

Hab. Venezuela, Angostura (*Mus. Bremensi*); Trinidad (*Mus. H. E. S.*).

Mus. Berolinensi, Heineano.

21. SALTATOR ATRICOLLIS.

Habia gola negra, Azara, Pax. i. p. 348.

Saltator atricollis, Vieill. N. D. d'H. N. xiv. 104, et Enc. Méth. p. 790; Less. Descr. d. Mamm. et Ois. p. 344; d'Orb. Voy. p. 288; Gray's Gen. ii. p. 363; Bp. Consp. p. 490.

Tanagra atricollis, Spix, Av. Bras. ii. p. 43, pl. 56, fig. 2.

Habia robustona, Azara, Pax. i. p. 350.

Saltator validus, Vieill. N. D. d'H. N. xiv. 106; Lafr. et d'Orb. Syn. Av. in Mag. de Zool. 1837, p. 35.

Tanagra jugularis, Licht. Doubl. p. 31.

Fringilla jugularis, Max. Beitr. p. 558.

"*Loxia capsicum*, Val.," Less. Tr. d'Orn. i. 448.

Saltator sordidus, Less. Echo d. M. S. 1845, p. 295.

Fusco-rufescens: alis caudaque et pilei pennis subtus nigricantibus: capite laterali et gutture toto nigris: abdomine albo-rufescente, ventre saturatiore: rostro aurantio, culmine nigro.

Long. tota 8·0, alæ 3·75, caudæ 3·75.

Hab. Eastern Brazil, prov. Minas Geraes (*Spix*); San Paolo (*Licht.*); Rio; Bolivia, Chiquitos (*d'Orb.*); Paraguay (*Azara*).

Mus. Brit., Berol., Paris. &c.

Genus V. PSITTOSPIZA.

Psittospiza, Bp. Compt. Rend. xxxi. p. 424 (1850).

Chlorornis, Reichb. Av. S. N. pl. 77 (1850).

Rostrum rectiusculum, elongatum, culmine incurvo, gonyde ascendente, dente finali distinctissimo: alæ elongatæ, remigibus secunda, tertia et quarta longissimis: cauda quadrata: ptilosis nitide viridis.

1. PSITTOSPIZA RIEFFERI.

Tanagra riefferi, Boiss. R. Z. 1840, p. 4.

Saltator riefferi, Gray, Gen. p. 363, pl. 89; Tsch. F. P. p. 210.

Tanagra prasina, Less. Echo d. M. S. 1843, p. 947.

Psittospiza prasina, Bp. Consp. p. 492.

Chlorornis prasina, Cab. Mus. Hein. p. 141.

Saltator elegans, Tsch. Wieg. Archiv, 1844, p. 288.

Latissime viridis, lateribus capitis et gula summa cum ventre imo castaneis: rostro aurantio: pedibus flavis.

Long. tota 7·2, alæ 4·5, caudæ 3·5.

Hab. New Grenada, Bogota; Ecuador, forests of the Andes near Quito (*Jameson*); wood-region of East Peru (*Tsch.*).

Mus. Brit., Paris, &c.

Genus VI. LAMPROSPIZA.

Lamprospiza, Cab. Wieg. Arch. 1847, p. 246.

Rostrum Saltatoris, sed debilius: alæ elongatæ, remigibus quatuor primis fere æqualibus: cauda modica, quadrata.

1. LAMPROSPIZA MELANOLEUCA.

Saltator melanoleucus, Vieill. Nouv. Dict. xiv. 105, et Enc. Méth. p. 791.

Divaricated Tanager, Lath. G. H. vi. p. 40.

Tanagra duplicata, Lath. in Mus. Derb.

Psaris habia, Less. Cent. Zool. p. 186, pl. 59.

Tityra habia, Gray, Gen. p. 253.

Lamprospiza habia, Cab. Wieg. Arch. 1847, p. 246; Bp. Consp. p. 492.

Tangara double croissant, Less. Tr. d'Orn. p. 379.

Lamprospiza melanoleuca, Sclater, Tan. Cat. Sp. p. 4.

Supra æneo-niger; subtus albus; gutture toto et vitta utrinque a medio pectore ad latera transeunte cum tibiis et cauda tota nigris, dorso concoloribus: rostro rubro. ♀ dorso toto pallide cinereo.

Long. tota 6·0, alæ 3·6, caudæ 2·5.

Hab. Cayenne.

Mus. Brit., Paris., Derbiano.

Genus VII. CISSOPIS.

Cissopis, Vieill. Analyse, p. 40 (1816).

Bethylus, Cuv. Regn. An. (1817).

Rostrum altum, compressiusculum; culmine multum incurvo; dente finali indistincto: alæ modicæ, remigibus tertia, quarta et quinta longissimis: cauda longissima et multum rotundata, rectricibus gradatim crescentibus: ptilosis albo-nigra: sexus similes.

1. CISSOPIS LEVERIANA.

Magpie Shrike, Lath. Gen. Syn. i. p. 192.

Lanius leverianus, Gm. S. N. i. p. 302.

Lanius picatus, Lath. Ind. Orn. i. p. 73.

Corvus leverianus, Shaw, Mus. Lever. p. 241.

Le pie piegrieche, Le Vail. Ois. d'Afr. ii. p. 33. pl. 60.

Corvus collurio, Daud. Orn. ii. p. 246.

Cissopis leverianus, Gray, Gen. p. 362.

Bethylus leverianus, Bp. Consp. p. 491.

Albus, capite toto undique cum collo ad medium dorsum triangulariter descendente et pectore simili modo triangulariter terminante splendenti-violaceo-nigris: alis caudaque nigris: tectricibus alarum minoribus albis, majoribus autem et secundariis albo extus limbatis; rectricibus omnibus albo terminatis: rostro et pedibus nigris.

Long. tota 10·5, alæ 4·3, caudæ 6·0.

Hab. South East Brazil.

Mus. Brit., Paris., &c.

2. CISSOPIS MEDIA.

Cissopis bicolor, Vieill. N. D. d'H. N. xxvi. 417, et Enc. Méth. p. 750 (*partim*); Vieill. Gal. Ois. p. 226. pl. 140 ?

Cissopis minor, Cab. Schomb. Reis. iii. 677.

Bethylus medius, Bp. Consp. p. 491.

Cissopis media, Sclater, Tan. Cat. Sp. p. 5.

Medius: dorso dimidiato albo: rostro crasso incurvo. (Bp.)

Hab. British Guiana (Schomb.).

Mus. Paris.

The Guiana *Cissopis* is rather smaller than the common Brazilian species, and the steel-black colour does not extend so far down the back. The Paris Museum specimen of this bird seems to want the white wing-spots. I am not confident as to the correctness of separating this and the Brazilian bird.

3. CISSOPIS MINOR.

Saltator bicolor, Lafr. et d'Orb. Syn. Av. in Mag. de Zool. 1837, p. 36 ?

Bethylus picatus, d'Orb. Voy. p. 269 ?; Tsch. Wieg. Archiv, 1844, p. 288.

Cissopis minor, Tsch. Faun. Per., p. 211.

Minor: dorso omnino albo: rostro minus valido, brevi, rectiusculo.

Long. tota 9·5, alæ 4·2, caudæ 5·2.

Hab. Bolivia, Yuracares (*d'Orb.*); Eastern wood-region of Peru (*Tsch.*); New Grenada, Bogota.

Mus. Brit., Paris.

The Bogota *Cissopis* seems distinct from the Brazilian, having merely the upper neck steel-black, and the back all white. I am not quite certain whether d'Orbigny's Bolivian examples are best referable here. They seem to come pretty near the Cayenne bird.

Genus VIII. OREOTHPRAUPIS.

Rostrum validum, tomis mandibulæ superioris medio turgidis et mandibulam inferiorem tegentibus, sicut in genere Lanione, sed brevius, altius, lutiù et medio minus uncinatum: alæ breves, rotundatæ: cauda sicut in genere Arremone.

1. OREOTHPRAUPIS ARREMONOPS.

Saltator arremonops, Jard. Edinb. N. Phil. Journ. 1855, ii. p. 119; Selater, P. Z. S. 1855, p. 84. pl. xcii.

Rufo-brunneus, olivaceo parum tinctus; pectore multo clariore et rubescentiore: capite toto mentoque nigris; vitta mediali verticis et superciliari utrinque postice elongatis cum medio ventre cinereis: alis intus et cauda nigricantibus: rostro et pedibus nigris.

Long. tota 7.25, alæ 3.2, caudæ 3.5.

Hab. Andes in the vicinity of Quito (*Jameson*).

Mus. Gul. Jardine, Baronetti.

This peculiar Tanager in style of plumage and general habit corresponds most closely with the members of the genus *Arremon*, but the bill is altogether abnormal, the upper mandible swelling in the middle and overlapping the under, as in the genus *Lanio*, though not developed into a decided hook: but it is much shorter, broader and deeper than in the last-named genus, and has more general resemblance to that of some of the *Saltatores*.

Genus IX. ARREMON.

Arremon, Vieill. Analyse (1816), p. 32.

Rostrum rectum, altum, breve, conicum, apice vix dentata: alæ breves, remigibus quarta, quinta et sexta longissimis: cauda breviuscula, rotundata.

1. ARREMON SILENS.

Le Tangara de la Guyane, Buff. Pl. Enl. 742.

Tanagra silens, Bodd. Table de Pl. Enl.; Lath. Ind. Orn. p. 432; Max. Beit. iii. 507.

Arremon torquatus, Enc. Méth. p. 794, et Vieill. Gal. Ois. p. 105. pl. 78.

Arremon silens, Gray, Gen. p. 361; Bp. Consp. p. 487.

L'oiseau silencieux, Desm. Tan. t. 38, 39, 40.

Silent Tanager, Lath. G. H. vi. p. 22.

Olivaceus: capite et vitta pectorali nigris: tænia verticali cinerea: superciliis a fronte ad nucham, cum gutture albis: abdomine albedo, lateribus cinerascens: campterio flavo: rostro nigro. -♀ Supra mari similis: subtus fulvo tincta nec cinerascens: torque gutturali vix apparente.

Long. tota 5.0, alæ 2.8, caudæ 2.4.

Hab. Cayenne; North Brazil, Capin river (*Wallace*); South East Brazil (*P. Max.*).

Mus. Brit., Paris., &c.

The Brazilian specimens of this bird are slightly larger in size than those from Cayenne, and of rather a more yellowish green on the back. This species may be distinguished from all its nearest allies by its black bill.

2. ARREMON D'ORBIGNII, sp. nov.

Embernagra silens, Lafr. et d'Orb. Syn. Av. in Mag. de Zool. 1837, p. 34 (*partim*).

Arremon silens, d'Orb. Voy. p. 281 (*partim*).

Supra olivascens: tænia verticali cinerea: superciliis a fronte incipientibus cum corpore subtus albis; hoc nigro torquato: rostro flavo; mandibulæ superioris parte culmini nigra.

Hab. Bolivia, prov. Yungas (d'Orb.).

Mus. Parisiensis.

This Bolivian species comes nearest to *A. flavirostris*, but there is more black on the upper mandible, and the superciliary stripes begin from the front, as in *A. silens*.

3. ARREMON FLAVIROSTRIS.

Tordo de bosque torquato, Azara, i. p. 331?

Arremon silens, Hartl. Ind. Az. p. 5?

Arremon flavirostris, Sw. An. in Men. p. 347; Gray, Gen. p. 361; Bp. Consp. p. 487.

Supra olivascens: tænia verticali cinerea: superciliis ab oculo incipientibus et corpore subtus albis; hoc nigro torquato: lateribus cinerascentibus: rostro flavo: ipso culmine tantum nigro.

Hab. Brazil, Cametá (*Mus. Berol.*).

Mus. Berol., Derbiano.

4. ARREMON DEVILLII, sp. nov.

Arremon devillii, Bp. in Mus. Paris.

A. schistaceus, olivaceo paululum tinctus: tænia verticali dorso concolore: superciliis ab oculo incipientibus et corpore subtus albis, hoc nigro torquato: tectricibus alarum superioribus olivaceis: rostro superiore nigro, inferiore flavo.

Long. tota 6·0, alæ 2·2, caudæ 2·1.

Hab. prov. Goyaz in Brazil (*Cast. et Dev.*).

Mus. Parisiensis.

This bird is intermediate between *A. flavirostris* and *A. polionotus*. Unlike the latter, it has the whole upper mandible black and the back tinged with olive, and is besides of smaller size, and possesses a vertical band. From the former it appears distinguishable by its differently coloured bill and less olivaceous back.

5. ARREMON POLIONOTUS.

Arremon polionotus, Bp. Consp. p. 488

Supra plumbeus: capite et torque angusta pectorali nigris: superciliis postocularibus et corpore subtus albis; lateribus cinerascentibus.

tibus : tectricibus alarum olivaceis, ipsa flexura flava : rostro albo, mandibulæ superioris culmine nigro.

Long. tota 6·0, alæ 2·9, caudæ 2·7.

Hab. Corrientes, La Plata (Bp.); Brazil, Cuyaba (Nutt.).

Mus. Paris. et Vindob.

This species may be distinguished from the *A. silens* by its cinereous back, narrower throat-band and differently coloured bill.

6. ARREMON ABEILLII.

Arremon abeillei, Less. R. Z. 1844, p. 435; Gray, Gen. App. p. 16.

Schistaceus; capite toto et torque gutturali nigris : superciliis et corpore subtus albis : rostro nigro; pedibus luteis.

Hab. Guyaquil (Less.).

Mus. Baronis de Lafresnaye et Princ. Car. Bonaparte.

I have seen specimens of this species in the collections of the Baron de la Fresnaye and Prince Charles Bonaparte. It appears very like the preceding, but has the bill black.

7. ARREMON SEMITORQUATUS.

Arremon semitorquatus, Sw. An. in Men. p. 257; Gray, Gen. p. 361; Bp. Consp. p. 488.

Supra olivaceus : capite et plaga utrinque cervicali (quasi semitorquem formante) nigris : vitta mediali verticis et cervice postica cum lateribus corporis et crisso cinereis : superciliis elongatis, gutture et abdomine medio albis : tectricibus alarum dorso concoloribus : mandibula superiore nigra, inferiore flava.

Long. tota 6·0, alæ 2·9, caudæ 2·9.

Hab. South Brazil.

Mus. Brit., &c.

8. ARREMON AXILLARIS.

Arremon axillaris, Sclater, P. Z. S. 1854, p. 97, et Tan. Cat. Sp. p. 15.

Supra olivaceo-viridis; capite atro; superciliis productis albis; vitta verticali et cervice postica cinereis : subtus niveus, lateribus cinerascens; plaga utrinque cervicali (vittam quasi imperfectam formante) mentoque summo atris; remigibus rectricibusque nigricantibus : tectricibus alarum majoribus flavo-olivaceis, minoribus et campterio læte flavis : mandibula superiore nigra, inferiore flava : pedibus clare brunneis.

Long. tota 3·8, alæ 2·2, caudæ 1·4.

Hab. New Grenadian Andes, Bogota.

Mus. Brit. et Paris.

This species very much resembles *A. semitorquatus*, but has the bend of the wing bright yellow, instead of olive-green. I have only seen it in collections from Bogota.

9. ARREMON SPECTABILIS.

Arremon spectabilis, Sclater, P. Z. S. 1854, p. 114. pl. 67.

Supra aurescenti-olivaceus; capite nigro, vitta verticali cinerea; superciliis albis; axillis latissime croceis; subtus albus; mento summo et torque gutturali nigris, lateribus cinerascentibus; rostro flavo.

Long. tota 5·8, alæ 2·8, caudæ 2·5.

Hab. Province of Quixos in Cisandean Ecuador.

Mus. Britannico; Gul. Jardine.

This beautiful species is from the Upper Rio Napo, where it traverses the province of Quixos on the eastern slope of the great Andean range. Specimens in Sir William Jardine's collection are labelled as having been prepared by M. Villavicencio, a Spanish naturalist resident in that locality.

10. ARREMON ERYTHORHYNCHUS.

Arremon erythrorhynchus, Sclater, P. Z. S. 1855, p. 83. pl. 89.

Olivaceus; capite nigro; vitta mediali verticis, nucha cervicisque lateribus cinereis; superciliis et corpore subtus albis: torque gutturali angusta nigra: lateribus cinerascentibus: campterio flavo: pedibus albis: rostro elongatiore, incurviore, rubro.

Long. tota 5·8, alæ 3·0, caudæ 2·7.

Hab. New Grenadian Andes, Bogota.

Mus. Brit.

This *Arremon*, of which I have only yet seen one example—a Bogota skin, formerly in Mr. Gould's collection—may be distinguished from the preceding species by its more lengthened, incurved and brilliant orange-red bill, and the yellow bend of the wing.

11. ARREMON AURANTIROSTRIS.

Arremon aurantirostris, Lafr. R. Z. 1847, p. 72; Des Murs, Icon. Orn. pl. 55; Gray, Gen. App. p. 16; Bp. Consp. p. 488.

Brunnescenti-olivaceus; capite et vitta lata pectorali nigris: vitta mediali verticis dorso concolore: superciliis elongatis cum gutture toto et ventre medio albis: campterio flavo: rostro albescenti-aurantio.

Long. tota 6·5, alæ 2·9, caudæ 2·5.

Hab. Isthmus of Panama (*Delattre*).

Mus. Brit.; Derbiano; Acad. Philadelph.

This bird may be distinguished from its congeners by the broadness of the pectoral band, and its large wholly yellow bill.

12. ARREMON SCHLEGELI.

Arremon schlegeli, Lafr. M. S.; Bp. Consp. p. 488.

Supra cinereus, dorso et tectricibus alarum superioribus flavescenti-olivascens; capite toto et plaga utrinque gutturali (quasi semitorquem formante) nigris: carpo flavo: subtus albus, latera-liter cinerascens: rostro flavo, culmine vix nigro.

Long. tota 5·7, alæ 2·8, caudæ 2·3.

Hab. Littoral of New Grenada, S. Martha (*Verreaux*); Cartagena and Caraccas (*Mus. Paris*).

Mus. Brit., Paris., Lugdunensi.

This fine *Arremon* is at once recognizable by its black head, which is without the usual supercilia or medial band.

Genus X. PHÆNICOPHILUS.

Phænicophilus, Strickl. Cont. Orn. 1851, p. 104.

Rostrum Buarremonis, *sed elongatius* : *alæ elongatæ, remigibus tertia, quarta et quinta longissimis* : *cauda breviuscula, quadrata, rectricibus inter se æqualibus*.

1. PHÆNICOPHILUS PALMARUM.

Le palmiste, Briss. Orn. ii. p. 301. (♀.)

Le palmiste à tête noire, Briss. Orn. ii. p. 303. (♂).

Turdus palmarum, Linn. S. N. i. 295; Vieill. Ois. de l'Am. MÉR. ii. p. 16. pl. 69 ♂ 70 ♀.

Le palmiste de Cayenne, Buff. Pl. Enl. 539. fig. 1.

Tachyphonus palmarum, Vieill. N. D. d'H. N. xxxii. 359, et Enc. Méth. p. 803.

Arremon palmarum, Gray, Gen. Suppl. p. 16.

Phænicophilus palmarum, Strickl. Cont. Orn. 1851, p. 104.

Dulus palmarum, Bp. R. Z. 1851, p. 78, et Note s. l. Tang. p. 29.

Dulus poliocephalus, Bp. R. et M. de Zool. 1851, p. 78, et Note s. l. Tang. p. 29. (♀.)

Phænicophilus poliocephalus, Strickl. Cont. Orn. 1851, p. 104 (♀).

♂ *flavescenti-olivaceus* : *cervice postica et corpore subtus cinereis* : *guttur toto et abdomine medio albis* : *pileo nigerrimo* ; *maculis utrinque, alia in fronte, alia supra oculum et alia sub oculo, niveis* : *rostro nigro*. ♀. *pileo plumbeo* ; *guttur fere omnino cinereo*.

Long. tota 7·5, alæ 3·7, caudæ 3·0.

Hab. Island of S. Domingo.

Mus. Brit., Paris.

Genus XI. BUARREMON.

Buarremon, Bp. Consp. p. 483.

Chrysopoga, Bp. Consp. p. 480.

Pipilopsis, Bp. Consp. p. 485.

Rostrum rectum, plus minusve elongatum, conicum ; *apice vix dentata* : *alæ longiores, remigibus quarta, quinta et sexta longissimis* : *cauda elongata et multum rotundata* : *ptilosis olivascens* : *sexus similes*.

a. *Buarremon*.

1. BUARREMON TORQUATUS.

Embernagra torquata, Lafr. et d'Orb. Syn. Av. in Mag. de Zool. 1837, p. 34.

Arremon affinis, d'Orb. Voy. p. 282.

Buarremon torquata, Bp. Consp. p. 483.

Clare olivascens : *capite nigro, tænia verticali et cervicis lateribus cinereis* : *superciliis ab oculo incipientibus et corpore subtus albis* :

pectore nigro torquato : lateribus et crisso viridescenti-olivaceis ; cauda cinerea, viridescenti-olivaceo limbata : rostro nigro : pedibus clare brunneis.

Long. tota 7·0, alæ 3·1, caudæ 2·9.

Hab. Bolivia, prov. Yungas (d'Orb.).

Mus. Parisiensi.

This bird is very like the *B. assimilis* so common in Bogota collections, but distinguishable by its black collar and white supercilia.

2. BUARREMON PHÆOPLEURUS, sp. nov.

Clare olivascens : capite nigro, tænia verticali et lateribus cervicis cinereis : superciliis a fronte incipientibus et corpore subtus albis : hoc nigro torquato : ventris lateribus et crisso brunnescentibus : cauda brunnea, olivaceo tincta : rostro nigro : pedibus clare brunneis.

Long. tota 7·2, alæ 3·2, caudæ 2·8.

Hab. Venezuela, Caraccas (Levraud).

Mus. Paris.

I have had a specimen of this bird in my possession for some time, but only lately discovered its distinctness from the preceding species, on comparing them together at the Jardin des Plantes. The Venezuelan form may be distinguished by the brown colour on the flanks and crissum, the brownish olive tail, and the commencement of the supercilia from the front. The examples of this *Buarremon* at Paris were sent to the Museum from Caraccas by M. Levraud.

3. BUARREMON ASSIMILIS.

Tanagra assimilis, Boiss. Rev. Zool. 1840, p. 67.

Arremon assimilis, Gray, Gen. p. 361.

Buarremon assimilis, Bp. Consp. p. 484.

Olivaceus ; pileo nigro : capitis vittis tribus cum cervice postica et laterali cinereis : subtus albus, lateribus et ventre imo crissoque cinerascenti-olivaceis : rostro nigro : pedibus brunneis.

Long. tota 7·0, alæ 3·3, caudæ 3·3.

Hab. Bogota ; Western declivity of Andes near Quito (Jameson).

Mus. Paris., Brit.

4. BUARREMON VIRENTICEPS.

Fringilla quadrivittata, Licht. in Mus. Berol.

Buarremon virenticeps, Bp. Compt. Rend. Oct. 22, 1855.

Similis Buarremoni assimili sed capitis striis et cervice tota olivascens, dorso concoloribus : rostro nigro : subtus magis cinereus.

Hab. Mexico.

Mus. Berol.

5. BUARREMON BRUNNEINUCHUS.

Embernagra brunneinucha, Lafr. R. Z. 1839, p. 97 ; Boiss. R. Z. 1840, p. 68 ; Gray, Gen. p. 361.

Arremon frontalis, Tsch. Wieg. Arch. 1844, p. 239 et F. P. p. 213.

Buarremon brunneinucha, Bp. Consp. p. 484.

Buarremon xanthogenys, Cab. Mus. Hein. p. 141.

Olivaceus: alis caudaque brunnescentioribus: pileo postico et nucha castaneis, striga utrinque cinnamomea: fronte et lateribus capitis nigris, illa albo trimaculata: subtus albus, nigro torquatus: lateribus et ventre imo cinereis, olivaceo indutis: rostro nigro.

Long. tota 7.0, alæ 3.2, caudæ 3.2.

Hab. Mexico (*Lafr.*); Guatimala; Bogota; East Peru (*Tsch.*); Venezuela, Caraccas.

Mus. Brit., Paris.

I have seen the type of *B. xanthogenys* in Herr Heine's beautiful collection of birds at Halberstadt. I think it is only an accidental variety of the *B. brunneinuchus*, because other examples from the same locality—Caraccas—seem perfectly identical with New Grenadian specimens.

b. Chrysopoga.

6. BUARREMON CHRYSOPOGON.

Zonotrichia? aureigula, Bp. M. S.

Atlapetes chrysopogon, Bp. in Mus. Paris.

Chrysopoga typica, Bp. Consp. p. 480.

Brunnescenti-griseus, subtus dilutior, ventre medio cinereo-albescentiore: capite nigro, vitta mediali alba: gutture flavo: rostro nigro, pedibus brunneis.

Hab. California?

Mus. Parisiensi.

This bird, of which I have only seen the specimen in the Paris Museum, resembles the better known *C. albinuchus*, but has only the throat, and not the whole under-surface, yellow.

7. BUARREMON ALBINUCHUS.

Embernagra albinucha, d'Orb. et Lafr. R. Z. 1838, p. 165; Gray, Gen. p. 361.

Buarremon albinucha, Bp. Consp. p. 484.

Atlapetes albinucha, Cab. M. H. p. 140.

Embernagra mexicana, Less. R. Z. 1849, p. 42?

Supra cinerascens-olivaceus; capite nigro, vitta mediali alba: subtus flava, lateribus et crisso olivascentibus: rostro nigro.

Long. tota 6.5, alæ 3.0, caudæ 3.2.

Hab. Cartagena (*Candé*).

Mus. Paris.

8. BUARREMON GUTTURALIS.

Arremon gutturalis, Lafr. R. Z. 1842, p. 97; Gray, Gen. p. 361.

Buarremon gutturalis, Bp. Consp. p. 484.

Olivascenti-fuscus : capite nigro, vitta mediali flavescenti-alba : sub-
tus grisescenti-alba, gutture flavo : rostro nigro.

Long. tota 6·5, alæ 3·1, caudæ 3·4.

Hab. New Grenada, Bogota.

Mus. Lafresnayano.

c. *Carenochrous*.

9. BUARREMON LATINUCHUS.

Arremon rufinucha, Tsch. Consp. Av. in Wieg. Arch. 1844,
p. 289 ; Tsch. F. P. p. 212 ?

Buarremon latinuchus, Du Bus, Bull. Ac. Brux. xxii. p. 154.

Schistaceus : pileo toto et cervice postica castaneis : lateribus capitis
nigris : subtus flavus, lateribus et crisso cinerascentibus.

Long. tota 6·5, alæ 3·1, caudæ 3·3.

Hab. Vicinity of Quito (Jameson) ; Eastern wood-region of Peru
(Tsch.).

Mus. Jard.

M. DuBus considers this bird, which has been generally con-
sidered as the same as the Bolivian *rufinuchus*, distinct from that
species. The principal difference apparent from d'Orbigny's figure
seems to be the want of the lateral gular stripes, but I have seen
indications of these in some Quitian specimens.

10. BUARREMON RUFINUCHUS.

Embernagra rufinucha, Lafr. et d'Orb. Syn. Av. in Mag. de Zool.
1839, p. 35 ; *Arremon rufinucha*, d'Orb. Voy. p. 283, pl. 27. fig. 2 ;
Gray, Gen. p. 361 ; *Buarremon rufinucha*, Bp. Consp. p. 484 (*partim*).

Supra nigra ; subtus flava, lateribus et crisso olivascentibus : macula
ante oculos sulfurascens : pileo et nucha cinnomomeo-rufis :
lateribus capitis et vitta angusta utrinque ad latera gutturis nigris :
rostro nigro.

Long. tota 6·3, alæ 3·0, caudæ 3·0 (d'Orb.).

Hab. Bolivia, (d'Orb. et Bridges).

Mus. Brit., Parisiensi.

11. BUARREMON LEUCOPTERUS.

Arremon leucopterus, Jard. Edinb. N. Phil. Journ. n. s. iii. p. 92.

Buarremon leucopterus, Selater, P. Z. S. 1855, p. 214, pl. 109.

Schistacescenti-niger, alis caudaque obscurioribus : capitis lateribus
nigris : pileo ochraceo-rufo : macula utrinque ante-oculari et spe-
culo alari cum corpore toto subtus albis, lateribus in cinereum
trahentibus : tectricibus alarum inferioribus albis : rostro pedi-
busque nigris.

Long. tota 6·2, alæ 2·8, caudæ 2·7.

Hab. Western slope of the Andes near Quito (Jameson).

Mus. Gul. Jardine, Baronetti.

12. BUARREMON PALLIDINUCHUS.

Arremon pallidinucha, Boiss. R. Z. 1840, p. 69 ; Gray, Gen. p. 361 ;
Bp. Consp. p. 484 ; Less. Descr. d. Mamm. et Ois. p. 351.

Buarremon pallidinucha, Bp. Consp. p. 484.

Atlapetes pallidinucha, Cab. Mus. Hein. p. 140.

Olivascenti-fuscus, alis caudaque nigricantibus : capite nigro : vitta lata a fronte ad nucham antice latiore cinnamomea, postice angustiore albescente : subtus flavus, lateribus et crisso olivascentibus.

Long. 6·3, alæ 3·2, caudæ 3·1.

Hab. Bogota.

Mus. Brit.

13. BUARREMON ALBIFRENATUS.

Arremon albifrenatus, Boiss. R. Z. 1840, p. 68 ; Gray, Gen. p. 361.

Buarremon albifrenatus, Bp. Consp. p. 484.

Arremon mystacalis, Sclater, R. et Mag. de Zool. 1852, p. 8 ; Cont. Orn. 1852, pl. 99, p. 131.

Olivaceus : pileo castaneo : fronte et lateribus capitis nigris : subtus flavus : gutture et mystace utrinque ab hoc linea nigra divisa albis : rostro nigro : pedibus rubellis.

Long. tota 6·3, alæ 3·0, caudæ 3·0.

Hab. Bogota.

Mus. Paris., Brit.

14. BUARREMON SCHISTACEUS.

Tanagra (Arremon) schistaceus, Boiss. R. Z. 1840, p. 69.

Arremon schistaceus, Gray, Gen. p. 361.

Buarremon schistaceus, Bp. Consp. p. 484.

Atlapetes schistaceus, Cab. M. H. p. 140.

Nigricanti-schistaceus, subtus pallidior, albescentior ; alis caudaque nigris, speculo alari albo : pileo intense castaneo : gutture albido ; capitis lateribus et stria utrinque gutturali nigris.

Long. tota 6·5, alæ 3·0, caudæ 3·1.

Hab. Bogota.

Mus. Brit.

d. Pipilopsis.

15. BUARREMON SEMIRUFUS.

Tanagra (Arremon) semirufus, Boiss. R. Z. 1840, p. 69.

Arremon semirufus, Gray, Gen. p. 361.

Pipilopsis semirufus, Bp. Consp. p. 485 ; Cab. M. H. p. 139.

Olivaceus ; capite et collo undique toto cum pectore cinnamomeis : abdomine flavo : lateribus olivascentibus : rostro plumbeo : pedibus rubellis.

Long. tota 6·5, alæ 3·0, caudæ 3·2.

Hab. Bogota ; Cumana (Dyson).

Mus. Brit., Paris.

16. BUARREMON FULVICEPS. ^x

Emberiza fulviceps, Lafr. et d'Orb. Syn. Av. in Mag. de Zool. 1837, p. 77 ; d'Orb. Voy. p. 362. pl. 46. fig. 2.

Pipilopsis fulviceps, Bp. Consp. p. 485 ; Cab. Mus. Hein. p. 138.

Olivaceo-viridis : capite et stria laterali gutturis castaneis : macula utrinque ante-oculari et corpore subtus ad medium ventrem flavis : lateribus olivaceo-viridibus.

Hab. Bolivia, prov. Mizque (d'Orb.).

Mus. Parisiensis.

This bird very closely resembles the *B. semirufus* in colour, but has the lores, middle of the throat, rictal striæ and breast yellow, the chestnut occupying the sides of the throat and dividing it from the striæ. The bill is rather more finch-like than in the former species.

17. BUARREMON PERSONATUS.

Arremon personatus, Cab. in Schomb. Reise, iii. 678.

Pipilopsis personatus, Bp. Consp. p. 485.

Pyrhocomma personata, Cab. M. H. p. 138.

Fusco-cinereus : dorso subolivascens : subtus flavus : pileo, gula collique lateribus rufis.

Hab. British Guiana, Roraima Mountains (Schomb.).

Mus. Berolinensis.

Genus XII. CHLOROSPINGUS.

Chlorospingus, Cab. Mus. Hein. p. 139.

Hemispingus, Cab. l. c.

Rostrum Buarremonis sed tenuius, debilius, dente finali pæne obsoleto : alæ longiusculæ, remigibus tertia, quarta et quinta æqualibus : cauda elongata et rotundata : ptilosis olivacea et schistacea : sexus similes.

This group forms a series, the first members of which are closely allied to the *Buarremones*, and have the bill nearly as strong, and of the same form as in that genus. But they grow gradually more tenuirostral, and ultimately show striking affinities towards *Trichas* and other forms of the *Mniotiltinæ*, with which they might at first sight be easily confounded.

a. *Chlorospingus*.

1. CHLOROSPINGUS OPHTHALMICUS.

Arremon ophthalmicus, Du Bus, Bull. Ac. Brux. xiv. pt. 2. p. 107 (1847); R. Z. 1848, p. 247; Gray's Gen. iii. Supp. p. 16.

Chlorospingus leucophrys, Cab. Mus. Hein. p. 139.

Pipilopsis albitemporalis, Bp. Consp. p. 485 (*partim*).

Supra brunnescenti-olivaceus, pileo et lateribus capitis obscure nigricanti-brunneis : palpebris et macula postoculari albis : loris, gula et abdomine medio albis : pectore, hypochondriis et crisso flavescenti-olivaceis.

Long. tota 5·25, alæ 2·75, caudæ 2·25.

Hab. Mexico, vic. of Jalapa (Cab.); Cordova (Sallé).

Mus. Bruxell., Berolin., H. E. Strickland.

2. CHLOROSPINGUS ALBITEMPORALIS.

Tachyphonus albitemporalis, Lafr. R. Z. 1848, p. 12; Gray, Gen. Supp. p. 17; Bp. Consp. p. 237.

Chlorospingus ophthalmicus, Cab. Mus. Hein. p. 139 (note).
Chlorospingus albitemporalis, Sclater, P. Z. S. 1855, p. 155; List
 of Bog. B. p. 27.

Supra late olivaceus: pileo et lateribus capitis nigricanti-brunneis: loris subobsolete fulvescentibus: pennulis oculum postice tangentibus albis: gutture pallide fulvescenti-albido, striis minutis nigris asperso: pectore aureo, fulvo tincto: abdomine medio pure albo: lateribus et crisso viridescenti-flavis.

Long. tota 5·2, alæ 2·75, caudæ 2·25.

Hab. Bogota (Lafr.); Venezuela (Levraud); Bolivia (Bridges).
Mus. Britannico.

This South American species may be distinguished from the Mexican *C. ophthalmicus* by its rather brighter olive colour above, its lores and throat tinged with fulvous-brown (in the other bird these parts are nearly pure white), and the fulvous-yellow breast, which in *C. ophthalmicus* is greenish yellow like the sides.

3. CHLOROSPINGUS FLAVIPECTUS.

Arremon flavipectus, Lafr. R. Z. 1840, p. 227; Gray, Gen. p. 361.
Tachyphonus flavipectus, Lafr. R. Z. 1848, p. 11; Bp. Consp.
 p. 237.

Pipilopsis flavipectus, Bp. Consp. p. 485.

Chlorospingus flavipectus, Cab. Mus. Hein. p. 139.

Olivaceus; pileo et cervice postica nigrescenti-cinereis, lateribus capitis saturatoribus, loris pallidioribus: gula albida, fulvescente tincta: abdomine viridescenti-flavo; ventre medio albo.

Long. tota 5·4, alæ 2·7, caudæ 2·6.

Hab. Bogota.

Mus. Brit., Paris., &c.

This is a very common species in Bogota collections.

4. CHLOROSPINGUS CANIGULARIS.

Tachyphonus canigularis, Lafr. R. Z. 1848, p. 11; Bp. Consp.
 p. 237; Gray, Gen. App. p. 17.

Pipilopsis canigularis, Bp. Consp. p. 485.

Chlorospingus canigularis, Cab. Mus. Hein. p. 139.

Hemispingus Veneris, Bp. Notes Orn. p. 22.

Similis C. flavipectori, sed rostro brevior, maxilla alba nec nigra, gula cinereo-alba nec brunnescenti-alba, capite nigrescentiore.

Long. alæ 2·9.

Hab. Bogota.

Mus. Paris.

Prince Bonaparte's *Hemispingus veneris*, of which the type is in the Paris Museum, seems to me to be the same as this bird. It is certainly very closely allied to the common *C. flavipectus*, but I have no doubt it is really a distinct species.

5. CHLOROSPINGUS OLIVACEUS.

Poospiza ! olivacea, Bp. Consp. Av. p. 473.

Chlorospingus olivaceus, Sclater, Tan. Cat. Sp. p. 6.

Brunnescenti-olivaceus; capite nigricante; vertice et nucha pallidioribus, cinerascens; macula postoculari candida; loris et lateribus cervicis griseis: subtus pallide flavus, gutture et ventre medio grisescenti-albis.

Hab. Central America?

Mus. Paris.

This bird is of exactly the same cast of plumage as *C. flavipectus* and *canigularis*, but may be distinguished by the colouring of its head, which has a broad longitudinal paler band, and is darker, almost black, over the eyes and again beneath them, and by the white postocular spot. A specimen in my possession seems to be of Delattre's preparation, and agrees with that in the Paris Museum, upon which Prince Bonaparte established his *Poospiza olivacea*.

6. CHLOROSPINGUS FLAVIVENTRIS, sp. nov.

Olivaceus; capite cinereo, viridi paulum apparente; gula albescenti-cinerea: abdomine toto flavo: rostro nigro, mandibula inferioris basi albescente.

Long. tota 5·5, alæ 2·5, caudæ 2·25.

Hab. Trinidad (*Mus. Jard.*); Bolivia? (*Mus. H. E. S.*).

I have seen two specimens of this apparently unrecognized *Chlorospingus*, which agrees in form with the preceding species, but is distinguished by its wholly yellow abdomen. One of these specimens is in Sir William Jardine's possession, the other in the collection of the late Mr. H. E. Strickland.

7. CHLOROSPINGUS SPODOCEPHALUS.

Chlorospingus spodocephalus, Bp. Notes Orn. p. 22.

Flavo-olivaceus, subtus aurantiis: capite toto cinereo, gula dilutiore: rostro nigro: pedibus rubellis. (Bp.)

Hab. Nicaragua (*Delattre*).

Mus. — ?

8. CHLOROSPINGUS FLAVIGULARIS.

Pipilopsis flavigularis, Sclat. R. Z. 1852, p. 8; Cont. Orn. 1852, p. 131, pl. 98.

Olivaceus: gutture flavo: abdomine et mento cinereis; ventre medio albescentiore; crisso flavescente: rostro plumbeo, basi albo notata; pedibus plumbeis.

Long. tota 5·5, alæ 3·25.

Hab. Bogota.

Mus. Parisiensis.

I have never seen any specimen of this bird except the type in the Paris Museum. The bill resembles that of *C. flavipectus*, but is rather stronger.

b. Hemispingus.

9. CHLOROSPINGUS ATRIPILEUS.

Arremon atripileus, Lafr. R. Z. 1842, p. 335; Gray, Gen. p. 361.

Pipilopsis atripileus, Bp. Consp. p. 485.

Chlorospingus atripileus, Selater, Tan. Cat. Sp. p. 6.

Olivaceus; pileo nigro; superciliis longis a fronte ad nucham antice flavidis, postice albis: subtus dilutior; gutture, pectore et ventre medio sordide flavis.

Long. tota 5·9, alæ 2·8, caudæ 3·0.

Hab. Bogota; vicinity of Quito (Prof. Jameson).

Mus. Brit., Jardinii, &c.

10. CHLOROSPINGUS MELANOTIS.

Chlorospingus melanotis, Selater, P. Z. S. 1854, p. 158. pl. 68; 1855, p. 155.

Supra nigro-plumbeus, dorso imo brunnescentiore: alis caudaque brunnescentibus, illis penitus nigricantibus: loris et capitis lateribus cum regione auriculari nigris: subtus pallide ochraceo-rufus: mento summo nigricante; ventre medio dilutiore: rostro nigro: pedibus pallidis.

Long. tota 5·25, alæ 2·5, caudæ 2·25.

Hab. Bogota.

Mus. Brit.

This little species, of which there are two examples in the British Museum, both apparently Bogota skins, differs from all its congeners in the colouring of the lower surface of the body, which is of a pale reddish buff, growing much whiter in the middle of the belly. Above the plumage is lead-coloured, with a greenish tinge superinduced towards the lower part of the back. The wings and tail are brown, with slight greenish edgings; the ear-coverts and whole side of the face are black. In the second specimen, apparently not so mature, there is a light-coloured spot on the front, just above the nostrils. The bill of this species agrees with that of *Chlorospingus atripileus* in size, but is rather straighter in form, as in *C. verticalis*.

11. CHLOROSPINGUS RUBRIROSTRIS.

Arremon rubrirostris, Lafr. R. Z. 1840, p. 227; Gray, Gen. p. 361.

Nemosia rubrirostris, Lafr. R. Z. 1848, p. 11.

Pipilopsis rubrirostris, Bp. Consp. p. 485.

Hemispingus rubrirostris, Cab. Mus. Hein. p. 138.

Chlorospingus rubrirostris, Selater, P. Z. S. 1855, p. 155.

Olivaceus, capite cinerascentiore: gutture toto pallide cinereo: abdomine flavo, lateribus olivascentibus: rostro rubro: pedibus pallidis.

Long. tota 5·7, alæ 3·1, caudæ 2·7.

Hab. Bogota.

Mus. Brit., &c.

12. CHLOROSPINGUS SUPERCILIARIS.

Arremon superciliaris, Lafr. R. Z. 1840, p. 227; Gray, Gen. p. 361.

Nemosia superciliaris, Lafr. R. Z. 1848, p. 227.

Pipilopsis superciliaris, Bp. Consp. p. 485.

Hemispingus superciliaris, Cab. Mus. Hein. p. 138.

Chlorospingus superciliaris, Sclater, P. Z. S. 1855, p. 155.

Hylophilus leucophrys, Lafr. R. Z. 1840, p. 227.

Olivaceus : pileo antico cinereo : fronte et superciliis cum macula suboculari albidis : subtus flavus : rostro plumbecente : pedibus pallide brunneis.

Long. tota 5·2, alæ 2·7, caudæ 2·5.

Hab. Bogota.

Mus. Brit., &c.

13. CHLOROSPINGUS XANTHOPHRYS.

Chlorospingus xanthophrys, Sclater, P. Z. S. 1856, p. 30.

Brunnescenti-olivaceus : loris nigricantibus : superciliis curtis a fronte ad oculum summum et corpore mediali subtus flavis : rostro nigro : pedibus pallide brunneis.

Long. tota 4·7, alæ 2·5, caudæ 2·4.

Hab. Bogota.

Mus. P. L. S.

I possess a single example of this small *Chlorospingus*. It is closely allied to *C. superciliaris*, but is inferior in size, has short yellow instead of longer whitish supercilia, and the body beneath only yellow quite in the middle, the sides being olive. Its olive plumage is also of a more brownish tinge, and the feet are pale brown or flesh-coloured, not plumbeous.

14. CHLOROSPINGUS VERTICALIS.

Nemosia verticalis, Lafr. R. Z. 1840, p. 227 ; Bp. Consp. p. 236 ; Gray, Gen. p. 366.

Chlorospingus verticalis, Sclater, P. Z. S. 1855, p. 155.

Cinereus, subtus dilutior, ventre medio albo : alis caudaque nigricantibus : capite toto cum gula nigris ; vitta lata a fronte ad nucham fumoso-brunnea : rostro et pedibus nigris.

Long. tota 5·0, alæ 2·8, caudæ 2·8.

Hab. Bogota.

Mus. Brit., Berol.

15. CHLOROSPINGUS LICHTENSTEINI.

Nemosia verticalis, Licht. in Mus. Berol (partim).

Chlorospingus lichtensteini, Sclater, P. Z. S. 1856, p. 30.

Supra cinereus, alis caudaque nigricantibus : pileo atro, vitta mediali verticis ochracecenti-albida : subtus albidus, lateribus cinerascantibus.

Long. tota 6·3, alæ 3·0, caudæ 3·1.

Hab. New Grenada.

Mus. Berolinensi.

One specimen of this bird, which I observed in the Berlin Museum, was marked as having been received from M. Boissoneau of Paris, along with examples of the preceding species, from which it appeared not to have been distinguished. It is closely allied to that

bird, but may be recognized by its rather larger size, and the black colouring of the head not extending round to the throat, as in *C. verticalis*, but the whole under surface being cinereous, growing white in the middle.

April 22, 1856.

Dr. Gray, F.R.S., in the Chair.

The following papers were read :—

1. ON TWO NEW SPECIES OF BIRDS (*NESTOR NOTABILIS* AND *SPATULA VARIEGATA*) FROM THE COLLECTION OF WALTER MANTELL, ESQ. BY JOHN GOULD, F.R.S.

Mr. Gould brought before the notice of the meeting two species of birds from the New Zealand group of islands which he conceived to be new to science ; one, a magnificent Parrot, pertaining to the genus *Nestor* ; the other, an equally interesting species of Duck, belonging to the genus *Spatula*. Both these birds had been placed in his hands for the purpose of describing, by Walter Mantell, Esq.

The *Nestor*, which is called "*Keá*" by the natives, is by far the largest of the three species of the form now known, and is certainly one of the most interesting of the ornithological novelties lately discovered. It not only differs from its near allies *N. hypopolius* and *N. productus* in its greater size, but in the greater uniformity of its colouring, in the yellow toothed markings of the inner webs of the primaries and secondaries, and in the orange toothed markings of the inner webs of the tail feathers ; the yellow colouring of the under mandible is another of the peculiarities by which it may be distinguished.

Mr. Mantell informed Mr. Gould that he first heard of the existence of the *Keá* about eight years ago from some old natives whom he was questioning as to the birds of the Middle Island. They said the *Keá* somewhat resembled the *Káka* (*Nestor hypopolius*), but that, unlike that bird, it was green, and added, that it used formerly to come to the coast in severe winters, but that they had not seen it lately. Mr. Mantell has only obtained the two specimens exhibited of this fine bird ; they were shot in the Murihiku country, and for one of them he was indebted to Mr. John Lemon of Murihiku.

The following is a description of this new species, for which Mr. Gould proposes the name of

NESTOR NOTABILIS.

General hue olive-green ; each feather tipped in a crescentic form with brown, and having a fine line of the same colour down the shaft ; feathers of the lower part of the back and the upper tail-coverts washed near the tip with fiery orange-red ; primaries brown,